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THE IMPACT OF DECLINING SCHOOL ENROLMENTS
ON NON-CERTIFICATED STAFF IN ONTARIO

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This study reflects the views of the authors and not necessarily those of the Commission or the Ministry of Education.




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CHAPTER I

SCOPE AND DESIGN

INTRODUCTION

As part of its investigation into the effects of declining enrolments, the Commission on Declining School Enrolments in Ontario (CODE), also known as the Jackson Commission, funded this study to determine the effects of declining enrolments on non-certificated (i.e., non-teaching) staff. Other, complementary studies, were commissioned on such topics as the effects of declining enrolments on supervisory officials, school principals, school curriculum, etc. Taken together, these studies should provide a comprehensive picture of the problems Ontario's educational community will have to face in the coming decade.

SCOPE

The scope of the present study had the following five parts:

1. Development of a uniform categorization scheme for staff in positions not requiring teacher certification in Ontario school boards.
2. Description of trends for the employment of non-certificated staff over the past ten years.
3. Projection of future trends in employment of non-certificated staff for the next ten years.
4. Assessment of the effect in a given board of the following factors on trends in employment of non-certificated staff, both past and future:
 - a) numbers of students,
 - b) numbers of certificated staff,
 - c) numbers of schools,

- d) numbers of families of schools,
 - e) language of instruction,
 - f) conditions of employment,
 - g) age distribution of staff,
 - h) staff turnover, and
 - i) staffing patterns.
5. Impact of retrenchment on non-certificated staff:
- a) job opportunities for different categories of staff
 - b) pension losses by staff, and
 - c) re-training opportunities and likely effectiveness.

These five objectives were kept firmly in view throughout the conduct of the research. However, as research progressed, the problem was recast into a somewhat different form.

THE PROBLEM

Underlying the questions in the scope of this contract is the assumption that, as in the case of teachers, the decline in enrolments will cause a reduction in the demand for non-certificated staff, and that this fall in demand will cause the displacement of staff. Further, there is an implication in this that there is some set of standards as to the numbers of both certificated and non-certificated staff that need to be employed in order to provide a quality of educational services acceptable to the community, and that this standard should not be exceeded for an indefinite length of time.

Given this interpretation of the scope of the study, the problem can be restated in terms of the following questions:

1. What are acceptable standards for the numbers of non-certificated staff employed by school boards of a give size and kind?
2. What will be the demand for non-certificated staff in the coming ten years, given that most school boards are becoming smaller?
3. What is the supply of non-certificated staff currently available in school boards, and how does this supply conform to future demand?
4. Given answers to the three questions above, what are the implications for the province, for school boards, and for individual employees?

DEFINITION OF VARIABLES

Though most of the variables used in this investigation are so familiar that full definitions are unnecessary, in the interest of precision it is useful to specify certain details, such as the date of enrolment count and the manner of classifying both school boards and their employees.

School board enrolment is defined as the number of in-school students in grades K-13 for public boards and K-10 for separate boards as of September 30th for the academic year in question.

Rate of decline in enrolment for a school board is defined as the ratio of the decline in enrolment during a period of time to the original enrolment at the beginning of the time period. This term will be used interchangeably with "percentage decline." For the purposes of classifying school boards in terms of the rates of decline they have experienced to date, rates of decline were computed for the period from the peak enrolment in the elementary panel (K-10 for separate boards) to 1976. These rates were then placed into three categories: "low," $+\infty$ to -7.5%; "medium," -7.5% to -17.5%; and "high," -17.5% to -100%.

Size of school board is defined in terms of the total number of students enrolled in the year of peak enrolment. Boards were classified as "small," less than 10,000 students; "medium," 10,000 to 25,000 students; and "large," greater than 25,000 students.

School boards are classified as public or separate. In this study the term *public school board* will apply to those distinguished as boards of education, district area boards (public boards), protestant separate boards, boards operating in Department of Defence areas, and Hydro and other boards in the *Directory of School Boards 1977* (Ministry of Education, Ontario, 1977). The term *separate school board* will be used to include those listed as County or District Roman Catholic Separate or simply Roman Catholic Separate School boards in the *Directory*. Excluded from the study are boards operating in treatment centres and boards enrolling no students. In particular, the Metropolitan Toronto Board is not counted as a school board, whereas the public school boards in the City of Toronto and its five boroughs are.

The percentage of French or bilingual schools in a school board is the ratio of French or bilingual schools to the total number of schools, times 100. Boards are categorized according to the following divisions: "low," 0 to 5%; "medium," 6% to 20%; or "high," 21% to 100%.

The geographic *location of a board* is defined in terms of the municipal jurisdiction within which a board operates -- city, county, or district. City boards include the six public boards in Metropolitan Toronto, boards of education in Windsor, Hamilton, London, and Ottawa, and separate school boards in Windsor, Metropolitan Toronto, and Ottawa. All boards operating in the Ministry of Education's Northwestern, Midnorthern, and Northeastern Regions are considered as district boards. Remaining boards are classified as county boards.

School board staff are defined as the entire group of individuals directly employed on a full- or part-time basis on December 31st of the academic year in question. Staff employed in positions requiring Ontario teacher certification are by definition *certificated staff*, and those in positions not requiring an Ontario teaching certificate are by definition *non-certificated staff*.

Just as the *staff* category was broken down into two separate categories, each of the two categories can be further disaggregated. Indeed, development of a uniform categorization scheme for non-certificated staff was the first task assigned in the contract for this study. We shall briefly recount the steps taken in responding to this matter.

Categorization of Non-Certificated Staff

Initially, it was unclear whether adequate data were readily available from sources in the Ministry of Education, or whether raw data would have to be collected. A number of potential sources of information were investigated, including the records maintained by school boards for personnel and financial purposes, and the Ministry of Education's data files based on *September School Reports* (which include data on the numbers of teaching staff attached to schools) and *June Board Reports* (which include data on the numbers of teaching staff attached to central office, supervisory officers, consultant staff, other professional staff, and educational support staff attached to central office).

A complete list of the staffing categories used in the September and June reports include the following positions (see Appendix A):

- Teachers attached to schools: all teachers and all principals, vice principals, heads of departments, and other non-teaching educational staff employed in the school.

- Teachers attached to central office: teachers, principals and vice-principals attached to central office.
- Supervisory Officers: Directors, Superintendents, Inspectors, etc. appointed under sections 244, 245, 246, and 248 of *The Education Act 1974* and Ontario Regulation 140/75.
- Consultant Staff: administrative assistants, supervisors, co-ordinators, program directors, and other qualified teachers employed in a similar capacity.
- Other Professional Staff: psychiatrists, psychologists, school social workers, speech therapists, speech pathologists, and attendance counsellors.
- Education Support Staff attached to schools: paid teacher aides, audio-visual, laboratory and educational resource technicians, and office staff attached to schools.
- Educational Support Staff attached to central office: paid teacher aides, audio visual, laboratory and educational resource technicians, and public information officers attached to central office.¹

While data from the June and September reports might have sufficed, a second categorization scheme is also widely used within school boards; namely, the Ontario Ministry of Education's *Uniform Code of Accounts* (Ontario Ministry of Education, 1969). This categorization scheme is used to a greater or lesser degree by all Ontario boards to maintain their financial records. While its use is optional, annual financial reports to the Ministry must be made in a format derived from the *Code of Accounts*, so there is a strong incentive for its use.

The classifications used in the *Uniform Code of Accounts* are as follows:

Business Administration

Senior Management Personnel

Supervisory and Administrative

Technical and Specialized

Architectural and Engineering

Clerical and Technical

Temporary Assistance

¹Sources: *Enrolment and Staff Ratios, 1976* (Toronto: Ontario Ministry of Education, Information Systems and Record Branch, 1977); *June Board Report for 1977: Instructions* (Toronto: Ontario Ministry of Education, 1977).

Computer Services

- Supervisory and Administrative
- Technical and Specialized
- Computer operations
- Clerical and Secretarial
- Temporary Assistance

Instruction

- Instructional Administration
 - Senior Management Personnel
 - Supervisory and Administration
 - Clerical and Secretarial
- School Office Administration
 - Clerical and Secretarial
 - Temporary Assistance
- Day School Regular Courses
 - Instructional Personnel
 - Principals and Vice-Principals
 - Teachers
 - Other Instructional
- Special Education
 - Instructional Personnel
 - Principals and Vice-Principals
 - Teachers
 - Others

Educational Services

- Audio-Visual
 - Supervisory and Administrative
 - Technical and Specialized
 - Clerical and Secretarial
- Guidance and Counselling
 - Supervisory and Administrative
 - Technical and Specialized
 - Clerical and Secretarial
- Library
 - Supervisory and Administrative
 - Technical and Specialized
 - Clerical and Secretarial

Educational Services (Cont'd.)

Psychological

Supervisory and Administrative
Technical and Specialized
Clerical and Secretarial

Attendance, Health, and Food Services

Attendance

Supervisory and Administrative
Technical and Specialized
Clerical and Secretarial

Health

Supervisory and Administrative
Technical and Specialized
Clerical and Secretarial

Food Services

Supervisory and Administrative
Technical and Specialized
Clerical and Secretarial

Plant Operation

Supervisory and Administrative
Clerical and Secretarial
Temporary Assistance

Plant Maintenance

Supervisory and Administrative
Clerical and Secretarial
Temporary Assistance

Transportation

Supervisory and Administrative
Clerical and Secretarial
Temporary Assistance
Technical and Specialized

Home - School

Home - Ontario Schools for the Deaf or Blind

School - School

Other

A definition and budget code number for each of the categories above are included in Appendix B.

Given that two categorization schemes for school board employees had already been developed and were in use -- implying that the data were readily available -- it seemed reasonable to select one of them for use in this study. The third alternative, to develop a wholly new set of categories, appeared to be impracticable given the time available and the difficulties that would almost certainly arise were board personnel requested to provide both historical and current data on their staffs in a form unfamiliar to them.

Comparison of the categories used in the June and September *Board Reports* with those for the *Uniform Code of Accounts* shows the latter to be a finer classification scheme for non-certificated staff, having approximately 45 categories as opposed to 22 for the former. The factor accounting for this difference is the cross-classification of administrative, secretarial, and technical positions by functional responsibilities such as Educational Services, Transportation, etc. At the same time, some categories present in the *Board Reports*, such as research, are not included as a separate category in the *Uniform Code of Accounts*.

In the end, the *Uniform Code of Accounts* was selected as the basis for classifying both certificated and non-certificated staff. The deciding factors were its cross-classification of staff and its close linkage to the allocation of resources in school boards. It is used to indicate not only the category of staff but also the purposes for which funds are budgeted. This makes it possible to conduct financial as well as staffing analyses.

DESIGN OF THE STUDY

This investigation was carried out in four stages. First, a sample of 12 school boards was selected which to some degree was representative of the diversity of school boards in Ontario. Second, data were collected on students, certificated staff, and non-certificated staff in these boards, the latter using the uniform categorization scheme described in the previous section. Third, data were aggregated for analysis first at the provincial level and then at the board level. Finally analysis of data within school boards was undertaken. In the last instance, we have essentially 12 case studies.

A sample of 12 boards was selected for investigation on the basis of five classification variables. It was the intent of the researchers to maximize the differences among the boards in order that the effects of declining enrolments on non-certificated staff could be investigated in widely varying situations.

Classification Variables

The five classification variables were size, percentage decline in enrolment, the percentage of French schools in the boards, the type of board (public or separate) and the board's location (city, county, or district). The reasons for selecting these five classification variables bear notice.

The size of school board is a variable known to be related to the costs of operation. Small boards are forced to spread fixed costs for administration and operation across a relatively small number of students, while very large boards typically must increase the proportion of time and staff devoted to communication and coordination if they are to deal adequately with the extremely complex problems created by their large and diverse clientele.

Percentage decline is, of course, the major causal variable in the study. It was deemed necessary to select boards that had experienced enrolment declines of differing severity in order to assess the impact.

The percentage of French schools is included in order to facilitate the investigation of the special problems faced by boards which operate schools in two languages. For all practical purposes, boards with a large percentage of French schools must be considered as almost two separate boards since as enrolments fall schools cannot be consolidated as easily as in a uni-lingual board.

The public-separate distinction is important because separate and public schools face different sets of problems in terms of their ability to absorb decline. Separate schools, encompassing only grades K-10, can expect to feel the full impact of declining enrolments sooner. Also, they tend to have fewer employees to share the brunt of decline. On the other hand, the greater cost and complexity of secondary school operated by public boards mean that the ultimate impact of declining enrolments in the secondary panel will hit these boards particularly hard.

Finally, the regional impact of declining enrolments -- in cities, in counties, and in northern districts -- may vary considerably. As we shall see, there is evidence that declining enrolments may be particularly severe in cities and in northern districts.

Target Population

The target population from which the sample for this study was drawn consists of all the school boards in Ontario enrolling students, except for those in treatment centres. This population includes a total of 173 boards. Tables 1 through 4 provide a description of this population of school boards in terms of the classification variables discussed in the previous section.

The type of board -- public or Roman Catholic separate -- is used as a control variable so that the distribution of the two types of board can be compared. Note that two-thirds (116) of all boards are classed as public, and one-third (57) as separate.

Table 1 displays the number of boards in each size category; the majority of both public and separate boards are small. However, in comparison to separate school boards, a much higher percentage of public

TABLE 1
SIZE OF ONTARIO SCHOOL BOARDS

Size	Type					
	Public		Separate		Total	
	no.	%	no.	%	no.	%
Small (<10,000)	72	62%	44	77%	116	67%
Medium (10,000-25,000)	24	21%	10	17%	34	20%
Large (>25,000)	20	17%	3	5%	23	13%
Total	116	100%	57	99%	173	100%

boards are large. Together the 23 large school boards enrol a majority of Ontario's elementary and secondary students, though they comprise only 13% of all school boards.

The rates of decline in school enrolment that have been experienced in public and separate boards are reported in Table 2. To date, the impact of declining enrolments has been equally shared by both types of

TABLE 2
PERCENTAGE OF ENROLMENT DECLINE IN ONTARIO SCHOOL BOARDS
FROM PEAK YEAR TO 1976

Rate	Type					
	Public		Separate		Total	
	no.	%	no.	%	no.	%
Low (+ ∞ to -7.5%)	52	45%	26	46%	78	45%
Medium (-7.5% to -17.5%)	33	28%	16	28%	49	28%
High (-17.5% to -100%)	31	27%	15	26%	46	27%
Total	116	100%	57	100%	173	100%

of boards. Approximately one-half of all boards have experienced a low rate of decline, one-quarter a moderate rate of decline, and another one-quarter a high rate of decline. Given that enrolment projections reported elsewhere (e.g., Rideout, 1975) suggest that the province as a whole will experience an overall decline in school enrolment of approximately one-third from its peak, it is clear that the full impact of decline is yet to be felt.

The percentage of a board's schools which are French or bilingual is indicated in Table 3. Not surprisingly, the greatest numbers and percentages of boards with a large number of French or bilingual schools are separate school boards.

TABLE 3
PERCENTAGE OF FRENCH OR BILINGUAL SCHOOLS

Percentage of French and Bi- lingual Schools	Type					
	Public		Separate		Total	
	no.	%	no.	%	no.	%
Low (0 to 5%)	99	85%	27	47%	126	73%
Medium (6% to 20%)	10	9%	9	16%	19	11%
High (21% to 100%)	7	6%	21	37%	28	16%
Total	116	100%	57	100%	173	100%

Finally, Table 4 provides a breakdown of public and separate boards by location -- city, county, and district. The distributions are quite similar, although in comparison with separate boards, a slightly higher percentage of public boards are located in cities and districts, and a slightly lower percentage in counties.

TABLE 4
LOCATION OF SCHOOL BOARDS

Location	Type					
	Public		Separate		Total	
	no.	%	no.	%	no.	%
City	10	9%	3	5%	13	8%
County	45	39%	28	49%	73	42%
District	61	52%	26	46%	87	50%
Total	116	100%	57	100%	173	100%

Sample Selection

Twelve boards were selected from among the 173 boards in the target population after the latter had been classified according to the five variables identified in the previous section. This provided a sample which represents the diversity of boards in Ontario.

The selection of particular boards within strata was made in conjunction with colleagues involved in another CODE project who also required a sample of boards (Scott, *et al.*, 1978). The researchers' familiarity with the boards themselves and their directors was an important factor in selecting a board for the sample. While such an approach does not guarantee an unbiased sample as might random selection, it did ensure relatively easy access and good cooperation. The latter were deemed to take precedence given the time constraints under which the study was conducted.

The classification of the 12 boards on each of the five variables is given in Table 5.

In spite of the many compromises made in selecting the sample, it is nevertheless quite representative of the province. Table 6 compares the percentage distributions of the sample and the population of Ontario school boards on each of the classification variables. The percentages of public and separate boards in the population are identical to those in the sample. The percentages of boards that have experienced low, medium, or high rates of decline are virtually the same, as well. However, the sample does over-represent medium and large boards, boards with medium or high percentages of French or bilingual schools, and boards in cities and counties.

TABLE 5
CLASSIFICATION OF SAMPLE BOARDS AS TO SIZE, RATE OF CHANGE IN ENROLMENT, LANGUAGE,
PUBLIC/SEPARATE, AND CITY/COUNTY/DISTRICT

Board	Classification Variable						
	Size (Peak Enrolment)	Decline in Enrolment (Peak Year to 1976)		French or Bilingual Schools		Public or Separate	City, County, or District
		Enrol- ment	Class.*	%	Class.†	%	
Board #1	106,169	Large	- 9.22	Medium	2.0	Low	City
Board #2	24,000	Medium	- 6.29	Low	0.0	Low	County
Board #3	17,736	Medium	- 9.31	Medium	0.0	Low	District
Board #4	30,956	Large	-10.15	Medium	8.2	Medium	District
Board #5	20,135	Medium	- 6.46	Low	0.0	Low	County
Board #6	40,047	Large	-12.71	Medium	6.1	Medium	County
Board #7	4,674	Small	-19.47	High	0.0	Low	District
Board #8	17,759	Medium	- 6.54	Low	11.8	Medium	County
Board #9	2,064	Small	-20.83	High	55.6	High	District
Board #10	23,927	Medium	- 6.72	Low	1.7	Low	County
Board #11	30,709	Large	-32.60	High	47.4	High	City
Board #12	5,615	Small	0.0	Low	5.6	Medium	County

* Size: Small = <10,000; Medium = 10,000-25,000; Large = >25,000. † Rate: Low = $+\infty$ to -7.5%; Medium = -7.5% to -17.5%; High = -17.5% to -100%.
 † Language: Low = 0 to 5%; Medium = 6% to 20%; High = 21% to 100%.

TABLE 6
PERCENTAGE DISTRIBUTIONS OF THE POPULATION AND SAMPLE OF
ONTARIO SCHOOL BOARDS ON FIVE CLASSIFICATION VARIABLES

Variable	Population	Sample
Size		
Small	67%	25%
Medium	20	42
Large	13	33
Rate of Decline		
Low	45%	42%
Medium	28	33
High	27	25
Percentage French School		
Low	73%	42%
Medium	11	33
High	16	25
Type		
Public	67%	67%
Separate	33	33
Location		
City	8%	17%
County	42	50
District	50	33

COLLECTION OF DATA

All quantitative data for this study were obtained from five sources; publications of the Ministry of Education, Ontario; publications of The Ontario Institute for Studies in Education; computer listings from the Ontario Municipal Employees Retirement Board (OMERS); computer analysis of questionnaire data from The Ontario Board of Examiners in Psychology; and data provided on code sheets by the twelve participating boards. In addition, some qualitative data were obtained from interviews with individuals representing the Canadian Union of Public Employees (CUPE) and the Ontario Psychological Association (OPA), from a questionnaire completed by officials in the twelve boards, and from copies of collective agreements submitted by the boards. The remainder of this section will note the sources of data for specific variables.

School board enrolments from 1969 to 1986 were requested from school boards (Appendix B). Historical data (1969 through 1976) were confirmed by comparing them with those in *Education Statistics Ontario* (Ministry of Education, annual). In three cases complete projections were not provided by boards. For Board #8 and Board #10, projections provided by Watson, *et al.* (1977) were used for the years 1977 to 1986. For Board #6, enrolment projections for 1977 to 1986 were obtained by halving the enrolment projections for the public schools in the region covered by the board made by Watson, *et al.* (1977). This procedure was not arbitrary; it was tested on historical data from 1969 to 1976 and was found to give very good estimates.

Information needed to classify school boards as to their type (public or separate) and location (city, county, or district) was obtained from the *Directory of School Boards 1977* (Ontario Ministry of Education, 1977). Data as to the number and hence percentage of French or bilingual schools were obtained from the *Directory of Education 1976/77* (Ontario Ministry of Education, 1977).

The numbers and salaries of all certificated and non-certificated staff for the year of peak enrolment and for 1976 were obtained directly from the 12 sample boards using a data collection instrument based on the personnel expenditure portions of the *Uniform Code of Accounts* (Ontario Department of Education, 1969). Personnel in boards were invited to indicate any modifications of the standard categories used in their boards

(Appendix C). The age and seniority distribution of non-certificated staff in the sample boards were obtained from the Ontario Municipal Employees Retirement Board in the form of computer output. The algorithms used to determine the age and service categories that were used is included as Appendix D. Rates of attrition due to retirement, disability, and mortality for these staff were obtained from Anthony, *et al.* (1976, pp. 84-86), (see Appendix E).

Qualitative data concerning the methods of allocating non-certificated staff, the existence of contractual agreements, the situation regarding attrition and lay-offs, and the perceived effects of the school grant formulas in the 12 sample boards were obtained on a questionnaire (Appendix F). Additional information was gained from copies of contracts which were submitted, as noted earlier.

Information about the numbers and interests of psychologists registered in Ontario were obtained from a statistical summary of data collected in a survey conducted by the Ontario Board of Examiners in Ontario in April of 1977.

Finally, several interviews were conducted with individuals representing CUPE, the OPA, and the Ministry of Education School Business and Finance Branch. The major purpose of these was to gain an understanding of the major policy implications that declining enrolments might have on members of CUPE and OPA, and on Ontario's system of school finance.

METHOD OF ANALYSIS

The analysis of the data has as its purpose the transformation of the raw data that were collected into meaningful answers to the four major questions to which this study is addressed: What is an appropriate number of non-certificated staff for a given school board? What will be the future demand for non-certificated staff? What will be the future supply of non-certificated staff? and What are the implications of the balance between this supply and demand?

Two methods of analysis might be used to determine an appropriate standard for the numbers of non-certificated staff in a school board. One approach would draw upon the traditions of scientific management, industrial engineering, and operations research. Each task in a school board's operations would be carefully analysed, time and motion studies would be conducted, and the most efficient method of carrying out the task would

be determined. Based on this information, work loads would then be set, and positions staffed accordingly.

The alternative approach is one which is normative. For this type of assessment, current and past staffing practices would be analyzed to determine how individual boards have in fact been staffed. Appropriate statistics, such as the ratios of the numbers of non-certificated staff to certificated staff, non-certificated staff to students, and non-certificated staff to schools, would be computed to provide a measure of the resources committed in the form of non-certificated staff in support of each certificated staff member, each child, and each school. Finally, maximum and minimum values for the ratios might be determined for different types of boards in order to serve as guidelines for acceptable practice.

The second approach is taken here for several reasons. First, it is far less labourious than the first approach, which is best suited for increasing the efficiency within a given operation within a particular organization. Second, in the field of education, in which productivity and effectiveness are almost impossible to measure, the amount of resources of all types invested in the process of education the young reflects more a community's dedication to the task than it does the efficiency of operation. Given this view, the normative approach is the logical choice.

Projections for the demand for non-certificated staff for the next ten years were based on two assumptions: (1) that current ratios for non-certificated staff to students will be maintained, and (2) that enrolments will decline as projected by the boards in the sample. We believe that taken together these assumptions will result in realistic projections. While on the one hand, the tight financial position many boards are experiencing might encourage a greater rate of reduction in staff than the rate suggested by the decline in enrolments, the necessity of maintaining certain basic services regardless of the size of a school board would act as a countervailing force. In any case, the actual rate of decline in enrolments seems to be a base line against which the public measures reductions in staff, regardless of whether or not this standard is legitimate in an organizational sense.

The method of projecting the numbers of non-certificated staff is applicable not only to aggregate numbers but to all categories of staff. In many cases, fractions of positions result. For example, a position with a single incumbent in 1976 might require only .7 of a person in 1984.

The .7 figure implies that the job might become less than a full-time position, and be a candidate for combination with another position.

Supply of non-certificated staff for the coming 10 years was calculated in a very different way. For this OMERS data giving the age distribution of non-certificated staff in each of the sample boards as of December 1977 was taken to be the supply of non-certificated staff. That is, it was assumed that no hiring from outside the current cohort would occur. To estimate the supply as of December 31, 1978 and each successive year, the number of non-certificated staff were reduced by the number in the 55 to 65 year age group that would be expected to retire, incur a disability, die, or terminate employment in the intervening year.

The probabilities used for these calculations are those reported by Anthony, *et al.* in *Sick Leave Gratuities and Resultant Liabilities*, the so-called Wyatt Report (1976, pp. 84-87). The original probabilities are reported separately for males and females. Noting that non-certificated staff are equally distributed between the two sexes (Anthony, *et al.*, p. 42), the average of the two percentages was used in the calculations.

Our estimate of the supply of non-certificated staff are probably high since we have excluded termination of employment for those under 55 as a mode of reducing supply. Although non-certificated staff have traditionally had higher rates of termination, the current high rates of unemployment and reduced staff turnover in many organizations suggested that a very conservative treatment of terminations should be taken.

Finally, to determine the relationship between estimated future supply and demand for non-certificated staff, the ratio of the projected supply of staff in each year was divided by the projected enrolment. For 1977, this gives the current staff-student ratio. If this ratio drops in future years, a shortage of non-certificated staff is indicated, given the normative definition of demand in terms of current ratios. Conversely, an increase in the ratio implies that a surplus of non-certificated staff will be available. If voluntary resignations do not occur, it will then be necessary to either allow the staff-student ratio to increase, or to reduce the number of staff by mandatory lay offs.

The analyses for the supply of non-certificated staff and the relationship between supply and demand are done only at the aggregate level since the OMERS data did not include any information as to the categories of non-certificated staff. Given the tremendous variety of non-certificated staff positions -- cooks, psychologists, carpenters, computer system managers,

etc. -- it is difficult to judge likely effect on any particular category given only the general picture. Nevertheless, questionnaire and interview data make it quite clear that the possibility of substantial reductions in force are perceived as a genuine threat to many non-certificated staff.

The method of analyzing the qualitative data collected for this study are not as systematic as those applied to the quantitative data. Instead, we looked for two themes in the data -- the nature of the threat to the job security of non-certificated staff, and the types of responses that are occurring in order to neutralize this threat. Conclusions drawn from this content analysis were then contrasted with the objective picture presented by the earlier projections and analyses.

OVERVIEW OF THE STUDY

This chapter introduced the problems being investigated, both in terms of their original statement in the contract and as they were reformulated. A number of housekeeping matters were taken care of -- e.g., definition of variables and selection of sample -- and the planned mode of analysis was described.

In Chapter II supply and demand for non-certificated staff on a province-wide basis is described using aggregate data from the 10 sample boards.

Relationships among the various types of school boards, their staffing patterns and the rate of decline they are experiencing are explored in the first part of Chapter III. The latter part deals with the different balances between supply and demand in these boards.

The main focus in Chapter IV is the projected demand for various jobs within boards. Chapter V considers the effects of declining enrolments on employment opportunities to date.

Chapter VI analyzes the responses various groups of non-certificated staff have made or are likely to make in order to protect or moderate the effects of the decline in enrolments.

Chapter VII reviews the major findings of the study and sets forth a series of options that might be considered in order to accommodate the needs of both the public-at-large and non-certificated staff.

CHAPTER II

THE PROVINCIAL PERSPECTIVE

In this chapter, we provide an assessment of the effect of declining enrolments on non-certificated staff from a provincial perspective. To accomplish this, we first analyze staffing ratios in the sample boards and, after comparing them with figures for the province as a whole, draw conclusions as to the appropriateness of the current levels of staffing. Following this, estimates are made for the total supply and demand of non-certificated staff, and the chapter concludes with an assessment of the relationship between supply and demand.

RATIOS FOR NON-CERTIFICATED STAFF

In order to assess the appropriateness of the current ratios of non-certificated staff to certificated staff, students, and schools, data were collected from the sample boards for two different years -- their year of peak enrolment and 1976. For both individual school boards and the total sample, ratios of non-certificated staff to certificated staff and to students were calculated. The percentage change in ratios was computed as well. To discover the source of changes in staffing ratios within boards, ratios of administrative, technical, clerical and secretarial, and other non-certificated staff were computed, as were those for the various functional areas.

Tables 7, 8, and 9 summarize the results for 10 of the 12 boards in the sample, two boards being omitted due to the lack of availability of data as to the number of staff in terms of full-time equivalents. Appendices G and H include a complete listing of all staffing ratios broken down by school board and elementary and secondary panels, where applicable.

TABLE 7

NON-CERTIFICATED STAFF PER 100 CERTIFICATED STAFF BY STAFF CLASSIFICATION

Board	Year	Non-Certificated Classification				Total	Percentage Change
		NC Administration	Technical	Clerical/Secretarial	Other/Temporary		
Board #1	1970	0.79	25.15	12.15	0.00	38.09	- 2.1
	1976	1.78	23.92	11.58	0.00	37.28	
Board #2	1969	0.98	16.34	8.21	0.00	25.53	21.6
	1976	1.17	20.16	9.72	0.00	31.05	
Board #3	1969	2.11	20.13	5.79	1.99	30.02	28.0
	1976	2.47	25.41	7.28	3.27	38.43	
Board #5	1971	2.32	16.60	7.56	0.15	26.63	- 2.7
	1976	1.81	14.46	9.53	0.10	25.90	
Board #6	1969	1.55	17.66	6.35	0.47	26.03	13.0
	1976	1.20	17.82	9.71	0.68	29.41	
Board #7	1970	2.22	10.72	7.76	0.00	20.70	33.5
	1976	1.32	16.67	9.65	0.00	27.64	
Board #9	1969	2.87	11.48	1.63	0.00	15.98	61.3
	1976	2.06	14.43	9.28	0.00	25.77	
Board #10	1971	1.53	15.06	6.06	0.00	22.65	28.7
	1976	1.65	16.27	11.23	0.00	29.15	

.....cont'd.

TABLE 7 (Cont'd.)

Board	Year	Non-Certificated Classification				Total	Percentage Change
		NC Administration	Technical	Clerical/ Secretarial	Other/ Temporary		
Board #11	1969	2.84	14.42	8.23	0.00	25.49	25.5
	1976	4.78	17.35	9.85	0.00	31.98	
Board #12	1974	0.90	14.83	8.06	0.00	23.79	- 3.9
	1976	1.13	14.18	7.56	0.00	22.87	
Averages	Year 1	1.87	16.24	7.18	0.26	25.55	17.3
	1976	1.94	18.07	9.54	0.41	29.96	
Ranges	Year 1	2.08	14.43	10.52	1.99	22.11	-29.6
	1976	3.65	10.96	4.30	3.27	15.56	

TABLE 8

NON-CERTIFICATED STAFF PER 100 PUPILS BY STAFF CLASSIFICATION

Board	Year	Non-Certificated Classification				Total	Percentage Change
		NC Administration	Technical	Clerical/ Secretarial	Other/ Temporary		
Board #1	1970	0.04	1.35	0.65	0.00	2.04	0.0
	1976	0.10	1.31	0.63	0.00	2.04	
Board #2	1969	0.04	0.70	0.35	0.00	1.09	46.8
	1976	0.06	1.04	0.50	0.00	1.60	
Board #3	1969	0.10	0.97	0.28	0.10	1.45	43.5
	1976	0.13	1.38	0.39	0.18	2.08	
Board #5	1971	0.11	0.80	0.37	0.01	1.29	7.8
	1976	0.10	0.77	0.51	0.01	1.39	
Board #6	1969	0.08	0.94	0.34	0.02	1.38	17.4
	1976	0.07	0.98	0.53	0.04	1.62	
Board #7	1970	0.13	0.64	0.46	0.00	1.23	35.8
	1976	0.08	1.01	0.58	0.00	1.67	
Board #9	1969	0.15	0.58	0.08	0.00	0.81	88.9
	1976	0.12	0.86	0.55	0.00	1.53	
Board #10	1971	0.07	0.67	0.27	0.00	1.01	46.5
	1976	0.08	0.83	0.57	0.00	1.48	

.....cont'd.

TABLE 8 (Cont'd.)

Board	Year	Non-Certificated Classification				Total	Percentage Change
		NC Administration	Technical	Clerical/ Secretarial	Other/ Temporary		
Board #11	1969	0.09	0.48	0.27	0.00	0.84	126.2
	1976	0.28	1.03	0.59	0.00	1.90	
Board #12	1974	0.04	0.65	0.35	0.00	1.04	3.9
	1976	0.05	0.67	0.36	0.00	1.08	
Averages	Year 1	0.09	0.78	0.34	0.01	1.22	34.4
	1976	0.11	0.99	0.52	0.02	1.64	
Ranges	Year 1	0.11	0.87	0.57	0.18	1.23	- 18.7
	1976	0.23	0.71	0.27	0.18	1.00	

TABLE 9
NON-CERTIFICATED STAFF, CERTIFICATED STAFF, AND PUPILS PER SCHOOL FOR 1976

Board	Non-Certificated Classification				Total	
	Administration	Technical	Secretarial	Temporary	Non-Certificated	Pupils Per School
Board #1	0.47	6.38	3.09	0.00	9.94	26.7 487
Board #2	0.25	4.32	2.08	0.00	6.65	21.4 416
Board #3	0.48	4.92	1.41	0.63	7.44	19.4 365
Board #5	0.39	3.15	2.07	0.02	5.63	21.8 410
Board #6	0.23	3.45	1.88	0.13	5.69	19.4 353
Board #7	0.23	2.92	1.69	0.00	4.84	17.5 290
Board #9	0.22	1.56	1.00	0.00	2.78	10.8 182
Board #10	0.32	3.18	2.19	0.00	5.69	19.5 385
Board #11	0.78	2.82	1.60	0.00	5.20	16.2 273
Board #12	0.16	1.97	1.05	0.00	3.18	13.9 295
Averages	0.35	3.47	1.81	0.08	5.71	18.7 346
Ranges	0.62	4.82	2.09	0.63	7.16	15.9 305

Appendix I provides a description of data on staff collected from different sources, and notes the difficulty of ensuring that data from different boards are comparable.

Non-Certificated Staff to Certificated Staff Ratios

The unweighted average of non-certificated staff per 100 certificated staff in the 10 boards was 30.0 and the weighted average was 33.1. The latter figure is similar to the ratio of 35.5 that can be derived from the numbers of certificated and non-certificated staff in the province given by Anthony, *et al.* (1976). Therefore, it seems reasonable to conclude that our sample is fairly representative of the province's school boards.

Two trends are apparent in the ratio of non-certificated staff to certificated staff. First, there has been an overall increase of 17% in the ratio between the time boards experienced their peak enrolments in the elementary grades (which in most cases took place in 1969, 1970, or 1971) and 1976. This has meant an increase from 26 non-certificated staff for every 100 certificated staff in the average board to approximately 30, implying that there has been an increase in the proportion of the total school board staff devoted to ancillary services. Second, there has been a decrease of 30% in the range of staffing ratios, from 22 to 16. Initially, one board had a ratio of 38 non-certificated staff per 100 certificated staff while another had only 16. In 1976, the same two boards had 37 and 26 non-certificated staff per 100 certificated staff, respectively.

Taken together, these trends are quite revealing. Overall, standards have risen, but the rise has been the result of increases in the staffing ratios in boards previously having low ratios. These trends show the success of the government policies designed to equalize educational resources throughout the province and to limit educational expenditures.

The distribution of additional staff across job classifications during the past several years is instructive. A 33% increase has taken place in clerical and secretarial positions. The ratio for this category of staff has increased from 7.2 staff per 100 teachers to 9.5, on the average, while the range in ratios between boards has dropped from 10.5 to 4.3, or 59%.

The distribution across functional areas (Appendix H) is also of interest. The largest increase in ratios has been in educational services; i.e., the audio-visual, guidance and counseling, library, and psychological services. The ratio has increased 41% from 1.87 staff per 100 certificated teachers to 2.63. A large percentage increase has also taken place in computer services, which is up 33% from .23 to .31. However, the ratios for the four categories that account for the greatest proportion of non-certificated staff have changed less dramatically: business administration is down 1% from 2.88 to 2.86; plant operations is up 8% from 14.28 to 15.46; plant maintenance is down 1% from 2.99 to 2.97; and instruction is up 18% from 6.46 to 7.60.

The distribution of the increases in staff by classification and function provides insight into the most likely targets for cuts should staffing ratios be reduced appreciably from the current levels. The proportions of staff devoted to business administration, maintenance, and operation -- which together employ two-thirds of all non-certificated staff -- have remained quite stable through the years, suggesting that these areas have been relatively uninfluenced by the increases in funds that have become available. This probably means they will be relatively resistant to budget cuts, as well. On the other hand, educational services and instruction have expanded noticeably, and would probably be the first areas slated for reduction. Many of these cuts would probably be made in secretarial and clerical positions.

How appropriate are the norms that have developed for the ratio of non-certificated to certificated staff? We feel there is good evidence that existing ratios are reasonable. Increases have taken place primarily in those boards that were recognized as having inadequate services in the late 1960's, and few of these ratios have risen much above the current norm. Also most increases in funds have been devoted to improving staff ratios for educational services and instruction, not business administration and plant operation or maintenance. Though one of the boards once operated with ratios as low as 16 non-certificated staff for every 100 certificated staff, current standards would appear to demand a minimum of 25.

In contrast to the rise in ratios in boards with previously low ratios, the board that had the highest staff ratio has cut its ratio slightly. Given that this large board is saddled with many urban problems and faces a considerable decline in its enrolments, we are inclined to feel

that a ratio of 37 non-certificated staff to 100 certificated staff is acceptable.

No doubt both of the minimum and maximum ratios we have identified as acceptable standards could be reduced slightly. A school will still operate if a library assistant, a psychologist, a secretary, or an audio-visual technician is lost. But this argument does not invalidate the claim that the ratios we have suggested as extreme values determine a range that is neither excessively generous nor excessively harsh. For all practical purposes, this means that the current range in non-certificated to certificated staff ratios is reasonable for both the present and the future.

Non-Certificated Staff to Pupil Ratios

The increasing trend noted for the ratio of non-certificated to certificated staff is also apparent in the ratio of non-certificated staff to pupils (see Table 8). On the average, this ratio has increased 34% from 1.22 to 1.64. Indeed, the increasing trend for this ratio is more pronounced than that for the other which had increased only 17%. A trend toward a convergence of the maximum and minimum values for the ratio is also apparent, the range having decreased 19% from 1.23 to 1.00.

Taken together, these trends show once more that the rise in average staffing ratios has been the result of the equalization of staffing ratios throughout the province, and not an increase in the staffing ratios in boards that already had relatively high ratios. In Board 1, for example, there was no increase, and, while it had led the sample in numbers of non-certificated staff per 100 pupils in 1970, its ratio was marginally exceeded by one northern board, Board 3, in 1976.

In contrasting the percentage increase in the number of non-certificated staff per 100 certificated staff with that per 100 pupils, a question does arise as to why the latter has experienced twice the increase of the former. The answer to this question is to be found in a simultaneous increase in the ratio of certificated staff to pupils, which has increased by 15% from 4.77 to 5.46 staff per 100 pupils. The 34% increase in the ratio of non-certificated staff to pupils is, in effect, the sum of the 15% increase in the ratio of certificated staff per pupil and the 17% increase in the ratio of non-certificated staff to certificated staff.

Are current ratios of non-certificated staff to pupils appropriate? The answer to this question devolves upon the question of whether or not the current ratio of certificated staff to students is appropriate, since we have already argued that current ratios of non-certificated staff to certificated staff are acceptable.

It is our opinion that present ratios are acceptable, and that it would be impossible to justify any cuts in teacher:pupil ratios given the circumstances most boards face. With an increasing number of small schools, it will be very hard or impossible for school boards to maintain the current quality of education without allowing an increase in the pupil:teacher ratio (Rideout, *et al.*, 1977; Rideout, *et al.*, 1975).

Based on the data at hand, it appears that non-certificated staff to student ratios ranging from 1.3 to 2.0 per 100 pupils define acceptable limits. A reasonable ratio for a given board would of course depend on its size, environment, and the problems it faces. The number of schools in a board, and the average size of these schools, place a major constraint on the level of efficiency which a given board can be expected to achieve.

Non-Certificated Staff to School Ratios

The well-documented relationship between cost-per-pupil and school size (Rideout, *et al.*, 1977) would seem to give considerable importance to the ratio of the number of certificated staff to the number of schools in a board (see Table 9). Presumably, a school board having, on the average, small schools would be expected to devote a relatively higher percentage of its resources to fixed costs such as maintenance, operation, and business administration.

To test this proposition, we calculated the rank-order correlation between the average school enrolment in a board and the ratio of non-certificated staff to pupils. A significant negative correlation would have confirmed the relationship. In fact, a correlation of only $-.05$ was found, which is not statistically significant.

The reason behind this negative result is probably the tremendous variation in staffing patterns within and between boards (Rideout, *et al.*, 1977, pp. 161-162), and the fact that most of the variation in staffing ratios is not due to the "fixed cost effect" that dominates when school enrolments drop below 200, but to the employment of varying numbers of support staff for educational services and instruction.

One might expect an exception to this situation in Board 9 which has an average school enrolment of only 182. This board has experienced the second highest decline in enrolment, the second highest rise in the number of non-certificated staff per pupil, and the highest increase in the number of non-certificated staff per certificated staff. In addition, it has the highest percentage of students in French or bilingual schools in the sample. Yet, its ratio of non-certificated staff to students, at 1.53, is below the sample average, though it has shown one of the largest percentage increases.

If all boards in Ontario were confronting the difficult situation faced by Board 9, the ratio of non-certificated staff to schools might become an important statistic. But at the present time, it is our feeling that it is not a particularly helpful ratio for analytic purposes. The other two ratios previously discussed in this chapter seem more interpretable since they show the direct relationship between the sizes of the three groups that combine to form our schools.

The ratio of non-certificated staff to schools may have a useful descriptive purpose, however. Along with the numbers of certificated staff and pupils, it helps to provide a profile of a typical school inclusive of its share of staff from the central office. As can be seen in Table 9, the typical school has 346 pupils, and benefits from the labour of 19 certificated staff and 6 non-certificated staff.

What will this profile of a typical school be six or seven years from now? Assuming current staffing ratios are maintained and that the enrolment declines by one-third, it would enrol only 242 pupils and require only 13 certificated staff and 4 non-certificated. This decline in the demand for staff is the topic of the next section.

DEMAND FOR NON-CERTIFICATED STAFF

In projecting the demand for non-certificated staff for the next 10 years, we have made several fundamental assumptions. First, we have assumed that demand is linked to the number of students in a school board, and that as the numbers of students decline, so will demand for staff. Second, we have assumed that the link between staff and enrolment is forged by the ratio of staff to students, and that current ratios for individual school boards will be maintained. We have taken this course, as we indicated

earlier, because we felt that fiscal pressures to reduce staffing ratios will be counterbalanced by organizational and employee forces aimed at maintaining or increasing ratios, and that the rate of decline in enrolments would be the bench-mark against which the public would judge reductions in staff.

In this section, we shall first provide a description of overall enrolment trends based upon our sample data; second, projections for the demand for categories of non-certificated staff will be made; and finally, we shall discuss alternatives to the assumptions we have made, and how these alternatives might affect the projections.

Enrolment Trends

Past and projected enrolments for the combined sample of 12 school boards are listed in Table 10 and graphed in Figure 1. Enrolment in these boards peaked in 1970 at a total of 319,046 and has since declined 13% to an estimated 276,534 in 1977. The decline will continue steadily until 1986, at which time it will have declined by 35% in all.

Projections from 1982 and beyond deserve special comment. For those years the number of new students in kindergarten and the primary grades are yet to be born. Hence the projections, which tend to show a slackening in the rate of decline, are less reliable than those for other years. The elementary projections by boards of education and K-10 projections by separate school boards contained in Appendix B typically show flat lines or slight increases beyond 1982. Should these projections prove to be too high, then enrolments might well decline more than projected above, perhaps as much as 40% from their peaks.

Annual rates of change in school board enrolments are not quite as predictable as Table 10 and Figure 1 suggest. While the typical board may in fact expect a 4% decline in enrolment in each of the next five years, each board is unique. Historical data make this point particularly evident at the secondary level where enrolments seem to show one or two percentage points of random variation from one year to the next.

Projections of Demand for Staff

Ten-year projections were made for the total demand for non-certificated staff in the ten sample boards for which current data were available. Detailed estimates were also made within each of the boards for the demand for each kind of position (i.e., administrative, technical,

TABLE 10
ENROLMENT TRENDS FOR COMBINED SAMPLE

TOTAL SAMPLE

NO. OF SCHOOLS 729
NO. OF FRENCH SCHOOLS 57
NO. OF BILINGUAL SCHOOLS 7

YEAR	ENROLMENT	CHANGE	PERCENT CHANGE
1969	315195.		
1970	319046.	3851.	1.22173
1971	317956.	-1090.	-0.34164
1972	314645.	-3311.	-1.04134
1973	306234.	-8411.	-2.67317
1974	299542.	-6692.	-2.18526
1975	295389.	-4153.	-1.38645
1976	287206.	-8183.	-2.77026
1977	276534.	-10672.	-3.71580
1978	265771.	-10763.	-3.89211
1979	255052.	-10719.	-4.03317
1980	244575.	-10477.	-4.10779
1981	235290.	-9285.	-3.79638
1982	225670.	-9620.	-4.08857
1983	218171.	-7499.	-3.32299
1984	212748.	-5423.	-2.48566
1985	208719.	-4029.	-1.89379
1986	205869.	-2850.	-1.36547
AVE. RATE OF CHANGE OVER LAST 16 YEAR/S			-2.69374%

FIGURE 1
GRAPH OF ENROLMENT TRENDS FOR COMBINED SAMPLE



secretarial and clerical, and other) and for each functional category. Sample data were extrapolated to give estimates of total demand for non-certificated staff in the province.

In 1976, the 10 boards in the sample employed a total of 4,360 non-certificated staff (Table 11). By 1981, only 3,572 non-certificated staff members will be required, indicating a net loss of 788 positions, and by 1986, only 3,126 staff members, suggesting the loss of an additional 446 positions.

On a provincial basis, there were an estimated 31,712 non-certificated staff employed in 1976. This figure was derived by multiplying the non-certificated to certificated staff ratio for the sample boards by the number of certificated staff reported by Anthony, *et al.* (1976, p. 40). There will be a demand for only 25,978 in 1981 and 22,731 in 1986, assuming as before that demand is tied to the decline in enrolment and the current staff to student ratios.

The distribution of staff across the various types of positions is displayed in Table 11. The demand in various functional areas are displayed in Table 12.

Detailed projections for demand for staff in each budget category for each board are given in Appendix J. These projections are tailored to each individual board in that the ratio of certificated staff to students for 1976 for each board is used to link the projected demand to the number of students. Similarly, the enrolment projections for the board in question are used, not those for the sample as a whole. Due to the considerable variation in expected rates of decline in enrolment, there is considerable variation in projected change in demand among boards. In one board there is a projected increase in demand, while others show losses up to 38%.

Alternative Assumptions and Projections

A number of alternative assumptions might be used in making projections for the future demand for non-certificated staff. With alternative assumptions, different projections would arise.

Our initial assumptions were that:

1. current non-certificated staff to student ratios are appropriate;
2. the numbers of staff will decline in direct proportion to the numbers of students; and
3. demand for staff will decline at the same time that enrolment declines.

TABLE 11
PROJECTED DEMAND FOR CERTIFICATED AND NON-CERTIFICATED
STAFF IN TEN SAMPLE BOARDS BY TYPE OF POSITION

Type of Position	Full Time Equivalent Staff		
	1976	1981	1986
<i>Non-Certificated</i>			
Administration	255.8	209.6	183.4
Technical	2,692.9	2,206.0	1,930.3
Clerical/Secretarial	1,369.1	1,121.6	981.4
Temporary	<u>42.5</u>	<u>34.8</u>	<u>30.5</u>
Total	4,360.3	3,572.0	3,125.6
<i>Certificated</i>			
Administration	222.5	182.3	159.5
Teachers	<u>12,963.4</u>	<u>10,619.6</u>	<u>9,292.2</u>
Total	13,185.9	10,801.9	9,451.7

TABLE 12
PROJECTED DEMAND FOR NON-CERTIFICATED STAFF IN SAMPLE BOARDS
BY FUNCTIONAL CATEGORY

Categories	Full-Time Equivalent Staff		
	1976	1981	1986
<i>Business Administration</i>			
Managerial/Supervisory	97.2	79.6	69.7
Other	280.1	229.5	200.8
Total	377.3	309.1	270.5
<i>Computer Services</i>	41.0	33.6	29.4
<i>Education Services</i>			
Audio-Visual	145.5	119.2	104.3
Guidance and Counselling	33.1	27.1	23.7
Library	36.8	30.1	26.4
Psychological	91.5	75.0	65.6
Other	39.9	32.7	28.6
Total	346.8	284.1	248.6
<i>Attendance, Health & Food Services</i>			
Attendance	28.0	22.9	20.1
Health	0.0	0.0	0.0
Food Services	17.2	14.1	12.3
Total	45.2	37.0	32.4
<i>Plant Operation - Total</i>	2,038.3	1,669.8	1,461.1
<i>Plant Maintenance - Total</i>	391.3	320.6	280.5
<i>Transportation</i>			
Administration	20.4	16.7	14.6
Home-School	98.2	80.4	70.4
Other	0.0	0.0	0.0
Total	118.6	97.1	85.0
<i>Instruction</i>			
Board Office	166.2	136.2	119.1
Schools	835.6	684.5	599.0
Total	1,001.8	820.7	718.1
<i>Grand Total</i>	4,360.3	3,572.0	3,125.5

The first alternative set of assumptions challenges the second and third of the above assumptions. It is proposed instead that:

- 2'. demand for non-certificated staff will decline only in proportion to the reduction in variable costs occurring as a result of the loss of students, while the demand represented by fixed costs will remain unchanged; and
- 3'. decline in demand will lag behind the decline in enrolment.

Assumption 2' implies that, while current staff to student ratios may be acceptable, they should be allowed to increase as enrolments fall since fixed costs will represent a greater proportion of total costs.

This view has support in the literature. Rideout (1977, p. 133) reports:

. . . that for total in-school cost, the breaking point (based on 100-pupil class intervals) is at 200 pupils. While schools with between 200 and 299 FTE pupils cost only 1 percent more than schools with 800 or more pupils, schools between 100 and 199 FTE pupils cost 10 to 20 percent more and schools with fewer than 100 FTE pupils cost 41 or 42 percent more than schools with more than 800 FTE pupils.

In addition, assumption 3' implies that the decline in demand, whether it be proportional or not, will not be felt immediately. According to the *Report of the Illinois Task Force on Declining Enrollments in the Public Schools* (Illinois State Office of Education, 1975, Appendix C), it may require five or six years before the savings due from a decrease in enrolment accrue to a school board. In the meantime, it must pay for the excess burden not covered by state aid out of local funds.

These two alternative assumptions -- that a given percentage decline in enrolment reduces demand for staff by some smaller percentage, and that this reduced demand lags several years behind the actual loss in enrolment -- could be built into a set of alternative projections. The easiest way to do this might be simply to lag the projections one or two years behind the decline in enrolments until the decline stops. At this point in time, one could stop relating decline in demand to the preceding years' enrolments, but tie it to current enrolments at the then current staffing ratio. This ratio would be higher than 1976 ratios because of the lag. By making this difference permanent, one would be taking some account of the larger proportion of staff representing fixed costs.

The second alternative set of assumptions we consider would replace the first assumption above with the following; namely, that:

- 1''. current non-certificated staff to student ratios are excessively high and should be reduced.

The normative character of this assumption is obvious. If it is considered along with assumptions 1 and 2, it would lead to a projection of demand lower than that made here. How much lower would depend, of course, on the ratio selected. If considered in concert with assumptions 2' and 3', it would probably lead to projections very much like those we have made, since they represent countervailing forces.

The third and final alternative replaces all three assumptions. It could be assumed that:

- 4'''. the current total expenditure for elementary, separate, and secondary schools, which represent the amount society is currently willing to spend for these purposes, will continue unchanged regardless of the number of students.

This assumption would tie the demand for non-certificated staff not to enrolment, but to the effects increased costs and salaries have on board finances. That is, if there were no increases in costs and salaries, the demand for non-certificated staff would remain stable at current levels. On the other hand, if costs and salaries increased, then there would be a proportionate decline in demand as funds were channeled toward these purposes. Even this decline would not occur if funds were indexed to inflation.

There is much to be said for assumption 4''' in boards that are currently spending above the ceiling set by the province for recognized ordinary expenditure. These boards are already depending on the local property tax to raise a proportion of their funds above and beyond that portion tied to enrolments under the provincial grant plan. The local portion of their revenues may remain fixed, and represent a growing proportion of the boards' revenues. Even then, these funds would not isolate a board entirely from the effects of the provincial grant system which ties grants to enrolment.

There is less reason to believe that assumption 4''' would be valid for boards operating at or below grant ceilings. These boards, many of which do not have a substantial property tax base, will certainly feel the effects of declining enrolments on their revenues, unless the province were to make major changes in its grant system.

On balance, the assumption that the amount spent on education would have no relation to the numbers of students seems untenable. At the same time, it is recognized that the decline in revenue in some boards might be less than proportionate to the decline in numbers of students. For these boards, it would probably be valid to use lagged projections of the type that were described when we considered alternative assumptions 2' and 3'.

We have retained our original assumptions for our projections in spite of arguments that offer support for projections incorporating a time lag and recognition of fixed costs. The major reason for this is our opinion that the pressure to increase staffing ratios will be offset by the pressure to reduce them. However, for those interested in alternative projections, we would note that lagged projections of the type we have mentioned can be derived from those presented by simply renumbering the years.

SUPPLY AND DEMAND FOR NON-CERTIFICATED STAFF

The question of the relationship between the supply of labour of a given type and demand for that labour is usually considered from the broad perspective of a given labour market. But the situation that now confronts Ontario school boards requires a somewhat different approach. For this study, we define the supply of labour in terms of those currently employed in school boards. Using this definition, the relationship between supply and demand can be assessed by determining whether or not attrition will reduce the current cohort of non-certificated staff employed in Ontario's school boards at a rate less than, equal to, or greater than the decline in demand.

Since we have linked demand directly to enrolment and have assumed that staffing ratios should be maintained at current levels, the relative rates of decline for supply and demand can be measured by the staff to student ratios that would occur in the future assuming no new non-certificated staff were hired and no current staff members were laid off. Whenever the ratio is seen to drop below the current level, the decline in supply must be greater than the decline in demand. Conversely, when the ratio rises above the current level, the decline in supply must not be as great as the decline in demand. A constant ratio would, of course, imply that both supply and demand were declining at equal rates.

The data on the age and numbers of staff needed for this analysis were obtained from OMERS and included all current non-certificated staff who belonged to this retirement in the 12 sample boards. As explained more fully in Appendix I, a sizeable proportion of employees in some boards have not joined OMERS and as a result, staff to student ratios based on these data are smaller than those based on board data. However, these data can still suffice as long as we assume that the age distribution among OMERS members in boards is the same as that for those who are not members. Then, it becomes the relative rather than absolute values of the changes in ratios from year to year that are important.

To derive the projected number of non-certificated staff currently employed who will be available in the coming years, the rates of retirement, disability, death, and termination reported in Appendix E were applied. Since it was assumed that no terminations would take place for those under 55, the projected number of remaining staff are liberal estimates.

Table 13 reports the projected non-certificated staff to student ratios for the coming ten years for the twelve sample boards, assuming no replacements are hired. Note that the initial value for the ratio of 1.69 staff per 100 students probably underestimates the true ratio by about 10% due to discrepancies between board and OMERS data. The important matter, though, is the shape of the curve shown in Figure 2.

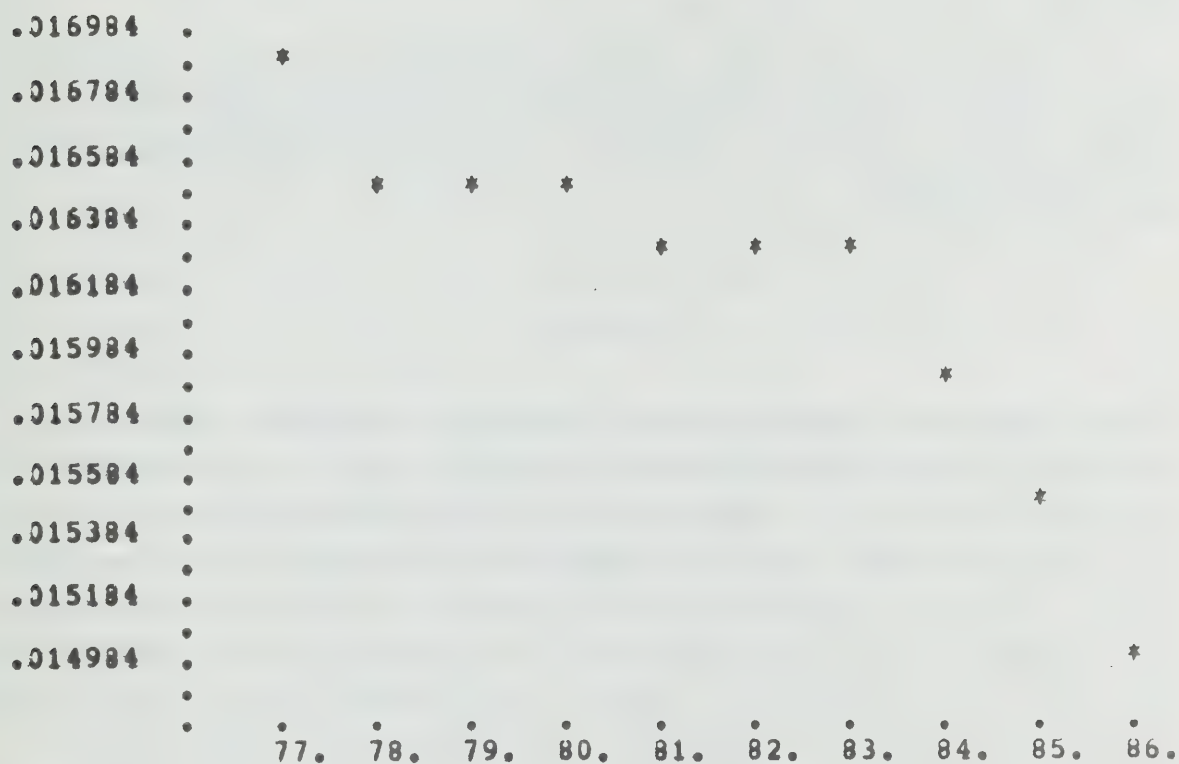
For the sample as a whole, it is evident that the supply of non-certificated staff currently employed in the 12 boards will decline more rapidly than will enrolment. The downward trend is rather slight at first, the ratio decreasing only 4% between 1977 and 1983. Thereafter, the drop is rather sudden, the ratio decreasing another 7% against the 1977 base in just three years. This implies that, on the average, the boards in the sample will be in a position to hire additional non-certificated staff in the coming years, assuming current staffing ratios are maintained.

The sudden drop in the ratio of non-certificated to certificated staff after 1983 warrants particular mention. As can be seen from Table 13, the actual number of non-certificated staff will decline by 24% between 1977 and 1983, but only 10% between 1983 and 1986. These decreases seem to run counter to the declines in the ratios of staff to students. The reason for this is the projected slowing in the rate of decline in enrolments. As noted earlier, enrolment projections for this

TABLE 13
SUPPLY/DEMAND FOR NON-CERTIFICATED STAFF IN
COMBINED SAMPLE, 1977 TO 1986

TOTAL SAMPLE			
YEAR	NO. OF NC STAFF-A	PROJECTED ENROLMENT-B	A/B
1977	4671.000	276534.	.016891
1978	4397.948	265771.	.016548
1979	4192.197	255052.	.016437
1980	4016.138	244575.	.016421
1981	3852.699	235290.	.016374
1982	3696.403	225670.	.016380
1983	3541.472	218171.	.016233
1984	3387.069	212748.	.015921
1985	3235.154	208719.	.015500
1986	3084.647	205869.	.014984
RANGE	.001908	SIZE OF INTERVALS 0.0002	NO OF INTERVALS 10

FIGURE 2
SUPPLY/DEMAND FOR NON-CERTIFICATED STAFF IN COMBINED
SAMPLE, 1977 TO 1986



period are subject to considerable uncertainty since the children who will be entering school then have yet to be born. If in fact the enrolment projections prove to be too high, then the increased demand for non-certificated staff after 1983 may not materialize.

The demand for additional non-certificated staff beyond those currently employed which is suggested by Table 13 and Figure 2 is probably an underestimate due to the conservative treatment of terminations. Traditionally, younger employees have a higher rate of resignation than do older employees, yet we have assumed this rate is zero. The fact that many employees in some boards are not members of OMERS may reflect this lack of long-term commitment.

On the other hand, should conditions mandate a decrease in staffing ratios, then our projections could of course overestimate demand and there could be a surplus of employees. Certainly individual boards will face this situation.

SUMMARY

In this chapter, we have argued from a normative perspective that current ratios of non-certificated staff to certificated staff and students are acceptable, and that the future demand for non-certificated staff will be tied directly to the decline in enrolment. We have shown for the sample in this study that there will be an opportunity for the average board to hire additional non-certificated staff in the coming years, but noted that individual boards may be faced with an excessive number of non-certificated employees. This type of variation among boards is one of the topics of the next chapter.

CHAPTER III

BOARD CHARACTERISTICS, STAFF RATIOS, AND SUPPLY AND DEMAND

The provincial overview presented in the preceding chapter conceals a tremendous variety of situations that Ontario's school boards face. This variation is evident in Table 5, which describes the characteristics of the 12 sample boards in terms of the five classification variables, and in the ranges in staffing ratios reported in Tables 7, 8, and 9. It is also present in the balance between the supply and demand for non-certificated staff, as we shall see.

The main purpose of this chapter is to explore this variation among boards in order to discover systematic relationships between the classification variables and the staffing ratios in boards. This information will provide a guide as to where a given board's staffing ratios might be expected to fall within the bounds previously identified. A second purpose is to learn if certain types of boards are perhaps more likely to face a surplus of non-certificated staff than are others.

In the analysis that follows, the limitations imposed by the small sample size are painfully evident. We explore the relationships between five different independent variables with a total of seven dependent variables -- all with a sample size of 10. We have been forced to treat just one independent variable at a time, taking the effects of other variables into account only in heuristic fashion.

CLASSIFICATION VARIABLES AND STAFFING RATIOS

There were five variables used to identify important traits of school boards which, for legal or organizational reasons, were felt to be of relevance in investigating the size of staffing ratios. These were the statute status of board (public or separate), the location of the board,

the size of the board, the percentage of the board's schools which were French or bilingual, and of course the rate of decline in enrolment. In a sense, the first four of these might be considered background variables since the rate of enrolment decline is the independent variable of primary interest.

Statute Status

The distinction between public and separate boards is a major distinction among boards for many reasons. Of utmost importance as far as staffing patterns are concerned is the difference in grade levels served: K-13 in most public boards, and K-10 in most separate boards.

Table 14 presents the staffing ratios broken down according to the type of board. Included in the ratios are the ratio of non-certificated staff per 100 certificated staff and per 100 pupils, as well as the ratios of non-certificated staff, certificated staff, and pupils per school. Data on the first two ratios are presented both for the year in which enrolment decline commenced (denoted by "Year 1") and 1976, along with the percentage change between the two years.

In spite of the small sample sizes, there appear in Table 14 several notable features.

First, the non-certificated staffing ratios for separate boards are smaller than those for public boards; this is to be expected since the latter must operate many large secondary schools. In 1976, there were about 27 non-certificated staff per 100 certificated staff in the separate schools, and 32 in the public schools. Similarly, there were 1.50 non-certificated staff per 100 pupils in separate schools, and 1.73 in the public schools.

Second, it is apparent that the gap in staffing ratios between public and separate schools has closed considerably in recent years. In Year 1, the non-certificated to certificated staff ratio for public boards averaged 27% greater than that for separate boards, and the non-certificated staff to pupil ratio averaged 52% greater. In 1976, these percentage differences both had decreased to 15%. In lieu of other evidence, we would suggest that this 15% differential is acceptable.

Third, it is apparent that while the gap between staffing ratios for public and separate boards has been decreasing, the ratios in both types of boards have increased considerably. The rates have of course increased more rapidly in separate boards than public boards; it is this higher rate of increase that effected the reduction in the gap in staffing ratios.

TABLE 14
STAFF RATIOS BY PUBLIC/SEPARATE CLASSIFICATION

Ratio	Type of Board	
	Public (n = 6)	Separate (n = 4)
<i>Non-certificated per 100 certificated</i>		
Year 1	27.83	21.98
1976	31.62	27.44
Percentage change	13.6	24.9
<i>Non-certificated per 100 pupils</i>		
Year 1	1.41	0.93
1976	1.73	1.50
Percentage change	23.4	61.9
<i>Per school for 1976</i>		
Non-certificated	6.70	4.21
Certificated	21.03	15.10
Pupils	387	283

Finally, we note that the average public school is 37% larger than the average separate school. The variance is no doubt primarily attributable to the large secondary schools in public boards. Nevertheless, public boards will, on the average, have greater flexibility in maintaining schools of larger size as enrolments decline. In the future, after an expected enrolment decline of an additional 22%, the typical school in a public board will have 302 students, whereas the typical separate school will have only 221 students, dangerously close to the enrolment level of 200 which was identified earlier as a point at which costs can be expected to escalate disproportionately to the number of students. One can surmise that separate boards will have more schools in this category.

Location of Board

The relationship between a board's location in a city, county or district and the various staffing ratios are indicated in Table 15. Again, several trends are prominent.

The trends toward equalization of services apparent throughout this study are reflected once again in the non-certificated to certificated staffing ratios. Initially, the district boards had the lowest ratios, county boards were next, and city boards were highest. After rapid gains in district boards, the ratios for 1976 showed that district boards were on a par with county boards. City boards, though showing the smallest percentage increases, still had the highest ratios.

The data for non-certificated staff per 100 pupils are not so systematic. They indicate that while district and county boards were initially similar, the more rapid increases in the ratios in district boards have placed the latter second to city boards. As we shall see later, some of this increase in district board ratios is probably due to the presence of higher rates of declining enrolment in these boards (Table 5).

Finally, we note that the district boards generally operate schools that are smaller than those in county or city boards. As enrolments decline, the impact will be greater on these boards.

Size of Board

Table 16, not unlike the preceding two, shows the trend toward the equalization of staffing ratios, this time between small, medium, and large boards. Large boards retain the highest ratios, and small boards the lowest.

TABLE 15
STAFF RATIOS BY LOCATION OF BOARD

Ratio	Location		
	City (n = 2)	County (n = 5)	District (n = 3)
<i>Non-certificated per 100 certificated</i>			
Year 1	31.79	24.93	22.23
1976	34.63	27.68	30.61
Percentage change	8.9	11.1	37.7
<i>Non-certificated per 100 pupils</i>			
Year 1	1.44	1.16	1.16
1976	1.97	1.43	1.76
Percentage change	36.8	23.4	51.3
<i>Per school for 1976</i>			
Non-certificated	7.57	5.37	6.81
Certificated	21.50	19.20	15.90
Pupils	380	372	279

TABLE 16
STAFF RATIOS BY SIZE OF BOARD

Ratio	Size		
	Small (n = 3)	Medium (n = 4)	Large (n = 3)
<i>Non-certificated per 100 certificated</i>			
Year 1	20.16	26.21	29.87
1976	25.43	31.13	32.89
Percentage change	26.1	32.89	10.1
<i>Non-certificated per 100 pupils</i>			
Year 1	1.03	1.21	1.42
1976	1.43	1.64	1.85
Percentage change	39.0	35.3	30.5
<i>Per school for 1976</i>			
Non-certificated	3.60	6.35	6.94
Certificated	10.73	20.53	20.77
Pupils	256	394	371

The already small size of the average school in small boards, enrolling an average of just 256 pupils, leaves relatively little room for flexibility. Obviously, small boards can expect to feel the effects of declining enrolments more acutely than medium or large size boards.

French Schools

The percentage of French or bilingual schools is not as systematically related to staffing ratios as the previous variables, as can be seen in Table 17. Boards with the lowest and highest percentages of French schools have the highest staffing ratios. However, this pattern was not present at the time the decline in enrolments commenced. At that time, the boards with the highest percentage of French schools had the lowest ratios. The change in position was brought about by extremely rapid increases in ratios, especially that of staff to students.

The two boards with a high percentage of French schools have other features in common. Both are separate school boards which have experienced a high rate of decline in enrolments. This, combined with the small average school size, may in part explain the rapid changes in ratios.

Rate of Decline

The relationship between the declines in enrolment and in the demand for staff received considerable attention in the preceding chapter. Demand for staff in the coming ten years was linked directly to enrolment, with decline in demand occurring as enrolment declined. It was acknowledged, however, that others have described a time lag of several years after a given decline in enrolment before demand drops, and that even then the decline in demand may not be proportionate to the decline in enrolment due to the increasing share of costs that are fixed.

Table 18, describing the relationship between the rate of decline and staffing ratios for the ten sample boards, provides a field test for the effects of declining enrolment under the economic conditions that prevailed during the first part of the 1970s. A number of features are evident.

First, there has been an increase in the staff ratios in boards that experienced a high rate of decline that, in percentage terms, far exceeds that for boards that have experienced only low or medium rates of decline. The ratio of non-certificated to certificated staff has increased by 37% in the high-decline boards, but only by 11% in boards that experienced

TABLE 17
STAFF RATIOS BY PERCENTAGE OF FRENCH SCHOOLS IN BOARD

Ratio	Percentage of French Schools		
	Low (n = 6)	Medium (n = 2)	High (n = 2)
<i>Non-certificated per 100 certificated</i>			
Year 1	27.27	24.91	20.74
1976	31.58	26.14	28.75
Percentage change	15.8	4.9	39.2
<i>Non-certificated per 100 pupils</i>			
Year 1	1.35	1.21	0.83
1976	1.71	1.35	1.72
Percentage change	26.4	11.6	107.9
<i>Per school for 1976</i>			
Non-certificated	6.70	4.44	3.99
Certificated	21.50	16.65	13.50
Pupils	392	324	228

TABLE 18
STAFF RATIOS BY RATE OF ENROLMENT DECLINE

Ratio	Rate of Decline		
	Low (n = 4)	Medium (n = 3)	High (n = 3)
<i>Non-certificated per 100 certificated</i>			
Year 1	24.65	31.38	20.72
1976	27.37	35.04	28.46
Percentage change	11.0	11.7	37.4
<i>Non-certificated per 100 pupils</i>			
Year 1	1.12	1.62	0.96
1976	1.39	1.91	1.70
Percentage change	25.3	17.9	77.1
<i>Per school for 1976</i>			
Non-certificated	5.29	7.69	4.27
Certificated	19.15	21.83	14.83
Pupils	377	402	248

lower rates of decline. The same relationship is also apparent for the non-certificated staff to pupil ratios, where the percentage increase has been 77% in boards with high rates of declining enrolment, against an average of only 22% in boards that have experienced lower rates of decline.

The finding that staff ratios have increased the most in boards that have experienced high rates of decline in enrolment tends to confirm the view that demand does not decline as fast as enrolment, or at least did not decline as quickly as did enrolments under the economic conditions prevailing in Ontario in the early 1970s. Even then, however, this conclusion is confounded by the other characteristics of the particular boards in question. On the average, the three boards which have experienced the greatest rates of declining enrolment also had lower staffing ratios to start with than did the boards that have experienced lesser declines. And, even with the high percentage increases, their staff ratios do not exceed those for the boards that have experienced medium rates of decline. This is to be explained by the fact that of the boards that experienced high rates of decline, two are separate school boards and two are district boards (one is both). These are the types of boards that have profited by the equalization which has occurred among Ontario school boards. Thus, there is a portion of the increase in ratios noted for these boards that is due to equalization rather than to the effects of declining enrolments. Yet, because two of the three boards are separate boards, which tend to have lower ratios than public boards, their 1976 ratios were still not as high as those for boards which had experienced medium rates of decline, the latter boards being predominantly public boards.

Size of Effects of Variables

By comparing the overall averages for the non-certificated staff ratios reported in Tables 7 and 8 with the group means within each of the levels for the five classification variables, it is possible to establish the size and direction of the effects of these variables on staffing ratios. Table 19 summarizes these effects in terms of differences from the overall mean.

The interpretation of this table is quite straightforward. For example, the average public board has 1.66 non-certificated staff per 100 certificated staff more than an average board, regardless of its type, while separate boards have 2.52 fewer than average.

TABLE 19
EFFECTS OF VARIABLES ON 1976 STAFFING RATIOS

Variable	Non-Certificated Staff	
	Per 100 Certificated	Per 100 Pupils
<i>Overall Mean</i>	29.96	1.64
<i>Public/Separate</i>		
Public	+ 1.66	+ 0.23
Separate	- 2.52	- 0.14
<i>Location</i>		
City	+ 4.67	+ 0.33
County	- 2.28	- 0.21
District	+ 0.65	+ 0.12
<i>Size</i>		
Small	- 4.53	- 0.21
Medium	+ 1.17	0.00
Large	+ 2.93	+ 0.21
<i>Percent French School</i>		
Low	+ 1.62	+ 0.07
Medium	- 3.82	- 0.29
High	- 1.21	+ 0.08
<i>Rate of Decline</i>		
Low	- 2.59	- 0.25
Medium	+ 5.08	+ 0.27
High	- 1.50	+ 0.06

From the effects, it is possible to construct a profile of boards with relatively high staff ratios. These boards would show positive effects on all of the variables. They would tend to be large, public school boards located in cities, having few French schools and experiencing a medium rate of decline in enrolments. In contrast, boards with low ratios would tend to be small separate school boards located in counties, having a medium number of French schools and experiencing a low rate of decline in enrolment.

The profiles given above indicate how the effects reported in Table 19 can be used to establish where the ratios for a given board might be expected to fall within the acceptable ranges identified in the preceding chapter. All that need be done is to establish the board's classification on each of the five variables, and to adjust the expected ratio upwards or downwards as indicated in the tabled values.

Unfortunately, this process of adjusting average ratios cannot be done in an arithmetic sense since there is considerable co-variation among the classification variables, implying that many of the observed effects are confounded by the effects of several other variables. For example, more separate boards operate a large percentage of French schools (Table 3), so the effects for the statute status of a board and the percentage of French schools a board operates each include a component attributable to the other. Given the small sample size, this limitation could not be eliminated by more sophisticated analysis of the data.

We can, nevertheless, be reasonably confident that the direction of the effects are correct since in most cases they are in the direction logic would dictate. Therefore, we can use the data on effects for heuristic purposes in determining how average staffing ratios should be adjusted to take into account the differing characteristics of each board.

SUPPLY AND DEMAND WITHIN BOARDS

The net surplus of non-certificated staff members in the 12 sample boards that was projected for the coming years reflects the overall situation, but does not necessarily reflect that in individual boards. In fact, some boards may expect a surplus rather than a shortage of staff.

In this section, we shall describe the various balances between supply and demand in the individual boards, and relate the different trends that are observed to the five classification variables and to staff ratios.

The ratios between remaining non-certificated staff and students for the next ten years that are used to assess the balance in supply and demand are reported for each of the 12 boards in the sample in Appendix K. Four types of curves are to be seen in these.

The first type is a "roller-coaster" curve in which there is a temporary decline before a peak is reached, followed by a drop (Figure 3). It can be inferred that boards with this type of curve, namely Boards #1, #7, and #8, can expect a short-term shortage of non-certificated staff followed by a surplus of varying magnitudes. The second type of curve exhibits an immediate rise, followed later by a steep decline. Board #4, the only board expecting this trend, can therefore expect to face an immediate surplus of staff, followed by a return to normalcy. The third type of curve represented in the graphs displays a steady and unrelenting increase, implying that a board with this trend will have a surplus of non-certificated staff for the foreseeable future (Figure 4). Board #11 is the only board with this trend. The fourth and final trend is a steady decline in the ratio, as is seen in the graphs for Boards #2, #3, #5, #6, #9, #10, and #12 (Figure 5). These boards will have a continuing shortage of staff, and will be in a position to hire new staff if current staff ratios are to be maintained.

While we have identified four types of curves in the projections of staff to student ratios, there is an implicit dichotomy in our classification scheme. The first three trends all indicate that boards having these trends have or will have a surplus of staff, while the others have a shortage. It is this dichotomy that will be used in the analysis that follows.

Correlates of Surplus and Shortage

What kinds of boards are facing a shortage or surplus of non-certificated staff? We answer this question in terms of the five variables we have used previously to classify the boards.

Table 20 reports the number and percentage of boards faced with a surplus or shortage of non-certificated staff broken down by board, size, percentage of French schools, status as a public or separate board, location, and rate of enrolment decline. A number of relationships are evident for the sample.

FIGURE 3
ROLLER-COASTER SUPPLY/DEMAND CURVE
FOR BOARD #1

BOARD 1-I

YEAR	NO OF NC STAFF-A	PROJECTED ENROLMENT-B	A/B
1977	1961.000	92238.	.021260
1978	1837.349	38063.	.020864
1979	1743.493	33552.	.020867
1980	1662.465	78598.	.021125
1981	1584.136	74013.	.021403
1982	1508.641	59878.	.021590
1983	1432.157	55362.	.021581
1984	1355.750	53542.	.021303
1985	1280.850	51512.	.020823
1986	1207.150	59598.	.020255
RANGE .001335 SIZE OF INTERVALS 0.0002 NO OF INTERVALS			

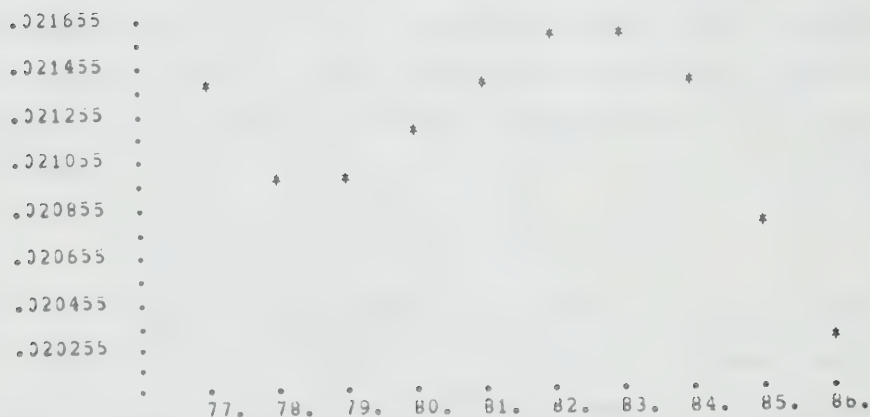


FIGURE 4
INCREASING SUPPLY/DEMAND CURVE FOR BOARD #11

BOARD 11

YEAR	NO OF NC STAFF-A	PROJECTED ENROLMENT-B	A/B
1977	331.000	19457.	.017012
1978	310.219	18045.	.017191
1979	298.520	15894.	.017670
1980	288.888	16153.	.017884
1981	280.281	15014.	.017502
1982	271.618	14872.	.018264
1983	263.035	14209.	.018512
1984	254.852	13549.	.018672
1985	246.543	13107.	.018810
1986	238.047	12549.	.018819

RANGE .001808 SIZE OF INTERVALS' 0.0002 NO OF INTERVALS 10



FIGURE 5
DECLINING SUPPLY/DEMAND CURVE FOR BOARD #6

BJARD 6-T

YEAR	NO OF NC STAFF-A	PROJECTED ENROLLMENT-B	A/B
1977	486.000	33511.	.014503
1978	452.487	32540.	.013906
1979	426.793	31622.	.013497
1980	406.489	30749.	.013220
1981	389.441	30044.	.012962
1982	373.316	28956.	.012893
1983	357.716	28172.	.012698
1984	342.909	27654.	.012400
1985	327.862	27288.	.012015
1986	312.858	27003.	.011586
RANGE .002917	SIZE OF INTERVALS 0.0002	NO OF INTERVALS 15	

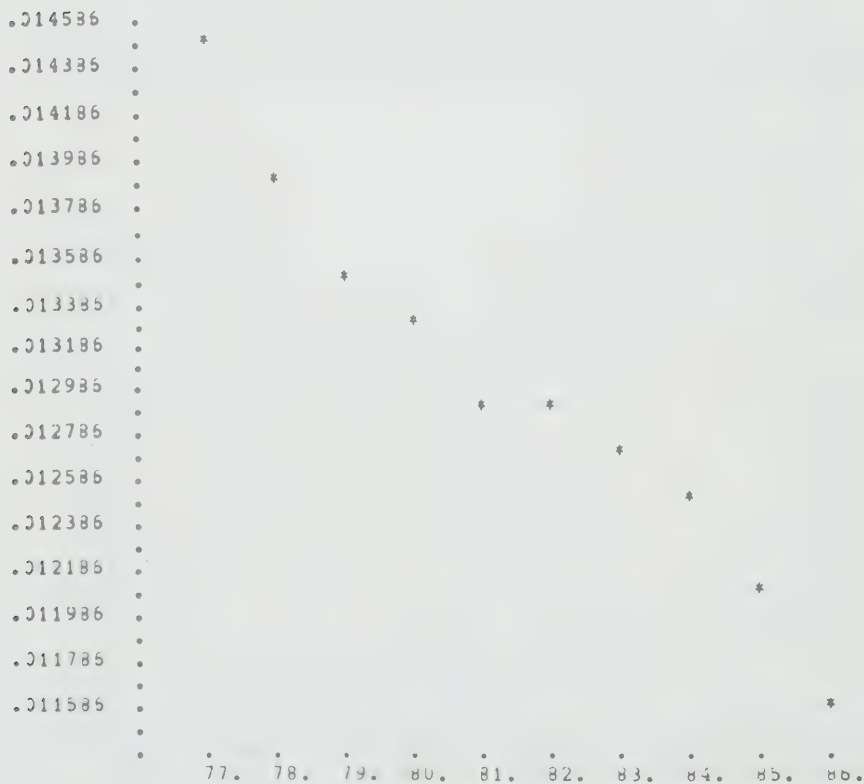


TABLE 20

SUPPLY/DEMAND BALANCE BY SIZE, PERCENTAGE FRENCH SCHOOLS,
TYPE OF BOARD, LOCATION, AND RATE OF ENROLMENT DECLINE

Variable	Supply/Demand Balance			
	Surplus		Shortage	
	n	%	n	%
<i>Size</i>				
Small	1	20	2	29
Medium	1	20	4	57
Large	3	60	1	14
<i>Percent French Schools</i>				
Low	2	40	4	57
Medium	2	40	2	29
High	1	20	1	14
<i>Public/Separate</i>				
Public	4	80	4	57
Separate	1	20	3	43
<i>Location</i>				
City	2	40	0	0
County	1	20	5	71
District	2	40	2	29
<i>Rate of Decline</i>				
Low	1	20	4	57
Medium	2	40	2	29
High	2	40	1	14

Surpluses of non-certificated staff are more likely in large boards, it appears, than in small or medium size boards. Fully 60% of the sample boards facing surpluses are large boards, whereas only 14% of those with shortages are small boards.

Surpluses of staff also tend to be more concentrated in public boards. Eighty percent of all sample boards expecting surpluses are public, while only 57% of those expecting shortages are public boards.

The location of a board is also related to the pattern of surpluses and shortages. Surpluses are concentrated in city and district boards, while shortages are more frequent in county boards.

Finally, we note that surpluses are more frequent in boards that have already experienced a medium or high rate of decline. Eighty percent of the boards with surplus staff are in these categories, while only 43% of the boards with shortage fall within them.

We can abstract from these cross-tabulations a profile of the board which is most likely to face a surplus of non-certificated staff. This board would be a large, public board located in a city or district, and it would already have experienced a medium or high rate of enrolment decline. Small and medium sized county boards in which there has been little decline in enrolments are the most likely to have staff shortages and be in a position to hire new staff.

Surplus, Shortages, and Staff Ratios

We have already seen in Table 19 that boards in which enrolments have declined at a high rate have also experienced large increases in staff ratios. It is probably these ratios have increased in spite of a reduction of total staff size through attrition. These overall reductions have probably resulted in the development of a more stable work force within the boards, meaning that future attrition may be less than in the past.

Table 21 reports the average staff ratios for boards expecting either surpluses or shortages of staff. There are distinctive differences between the two. The number of non-certificated staff per 100 certificated staff averages 32.3 for boards expecting surpluses, and 28.9 for boards expecting shortages, a gap of 3.4 staff members.

A similar difference occurs in the non-certificated staff to student ratio. The average value for boards that will have surplus staff is 1.87, 21% greater than the value of 1.54 observed for boards that will have shortages.

TABLE 21

AVERAGE STAFF AND PUPIL RATIOS BY SUPPLY/DEMAND BALANCE FOR 1976

Ratio	Supply/Demand Balance	
	Surplus (n = 3)	Shortage (n = 7)
<i>Non-certificated per 100 certificated</i>	32.30	28.94
<i>Non-certificated per 100 pupils</i>	1.87	1.54
<i>Per school</i>		
Non-certificated	6.66	5.29
Certificated	20.10	18.00
Pupils	350	344

The differences in the ratios of non-certificated staff, certificated staff, and pupils per school are also instructive. Whereas there is only a marginal difference of 2% in the average number of students per school, boards with a surplus of non-certificated staff in their futures have an average of 26% more non-certificated staff per school, and 12% more certificated staff.

These differences in ratios can be easily accounted for in terms of the traits the two types of boards exhibit. The traits of the boards that will have surpluses -- city or district location, public status, medium or high rate of decline, and large size -- were also identified in Table 19 as traits of boards with justifiably higher ratios.

In terms of personnel problems, however, the size of the staffing ratio may have a different importance. It may be more difficult for boards with already high ratios to accommodate increases in the ratios, increases that may prove the only alternative to laying off staff.

SUMMARY

In this chapter, we have related the balance in the supply and demand for non-certificated staff in sample boards to various traits of the boards. It was found that boards facing a surplus of staff are in less flexible positions to accommodate the problems created by declining enrolments because they already have relatively high staff ratios.

CHAPTER IV

ALLOCATION OF STAFF

The allocation of staff positions to schools and appointment of staff to these positions are two tasks with which all school boards must deal. For those experiencing declining enrolments and financial stringencies, these tasks become intimately entwined with the reduction in work force. And, for non-certificated staff who are members of bargaining units, there are often clauses in their contracts that control one or both activities.

This chapter is devoted to an analysis of existing modes of allocating non-certificated staff positions within school boards. The following chapter relates the experiences that a sample of boards have had to date with attrition and lay offs. Chapter 6 then considers union contracts in general, and clauses related to seniority rights, lay off procedures, and the assignment of staff, in particular.

ALLOCATION OF STAFF TO SCHOOLS

Non-certificated staff appear to fall into two categories when it comes to their deployment within school boards. Secretarial, clerical, plant operation, audio-visual, guidance, counselling, and library personnel, and those lay assistants appointed to teachers are almost always assigned to individual schools on the basis of a formula. Plant maintenance, attendance, psychological, and transportation personnel, on the other hand, are generally part of centralized units that serve schools according to demand and need. Among the staff categories in the first group, only clerical, and plant operation positions are present in sufficient numbers in the sample boards for us to make generalizations about the formulae in use, though all groups will be commented upon briefly.

Secretarial and Clerical Staff in Elementary Schools

Ten of the eleven boards that responded to a question concerning the mode of allocating secretarial and clerical staff to elementary schools indicated that a formula was used in making the decisions. The remaining board indicated that staff were assigned to schools "according to need."

All formulae determined the amount of secretarial and clerical assistance provided a school on the basis of either the number of students, the number of teachers, or the number of classes, all of which can be interpreted as measures of need. All formulae also took the form of "step functions." That is, the number of staff assigned for a given range of students, teachers, or classes is stated, and then this number is increased by a given amount for the next range, and so on. These features of the allocation formulae are apparent in both Table 22, which describes the various formulae, and Figure 6, which shows two formulae in graphical form. The motivation for the term "step function" is particularly obvious in the latter.

In Table 22, the number of staff positions allocated by a formula to a school is stated in terms of full-time equivalent staff. However, in actual board formulae, a number of different measures of staff strength are indicated. For example, the formula for Board #2 describes staff allotted in terms of days per week. A school with 199 or fewer students is entitled to the services of a secretary for two days per week; a school with between 200 and 299 students, three days per week, etc. In order to convert this to our common measure of full-time equivalent staff (FTE) we counted one day per week as equivalent to 20% of a full-time equivalent staff member.

Board #3's formula used a different unit of allocation. It assigned two hours of assistance per week per class, up to a maximum of 30 hours. The latter was taken to represent an FTE position in that board, so that two hours translated into .07 FTE.

Board #8's formula allotted staff in terms of half-days per week. Given that there are ten half-days in a work week, we set this equal to .10 FTE.

Finally, a few boards, such as Board #11, assigned staff in terms of FTE. This made our work easy.

TABLE 22
ELEMENTARY SECRETARIAL AND CLERICAL ALLOCATION FORMULAE

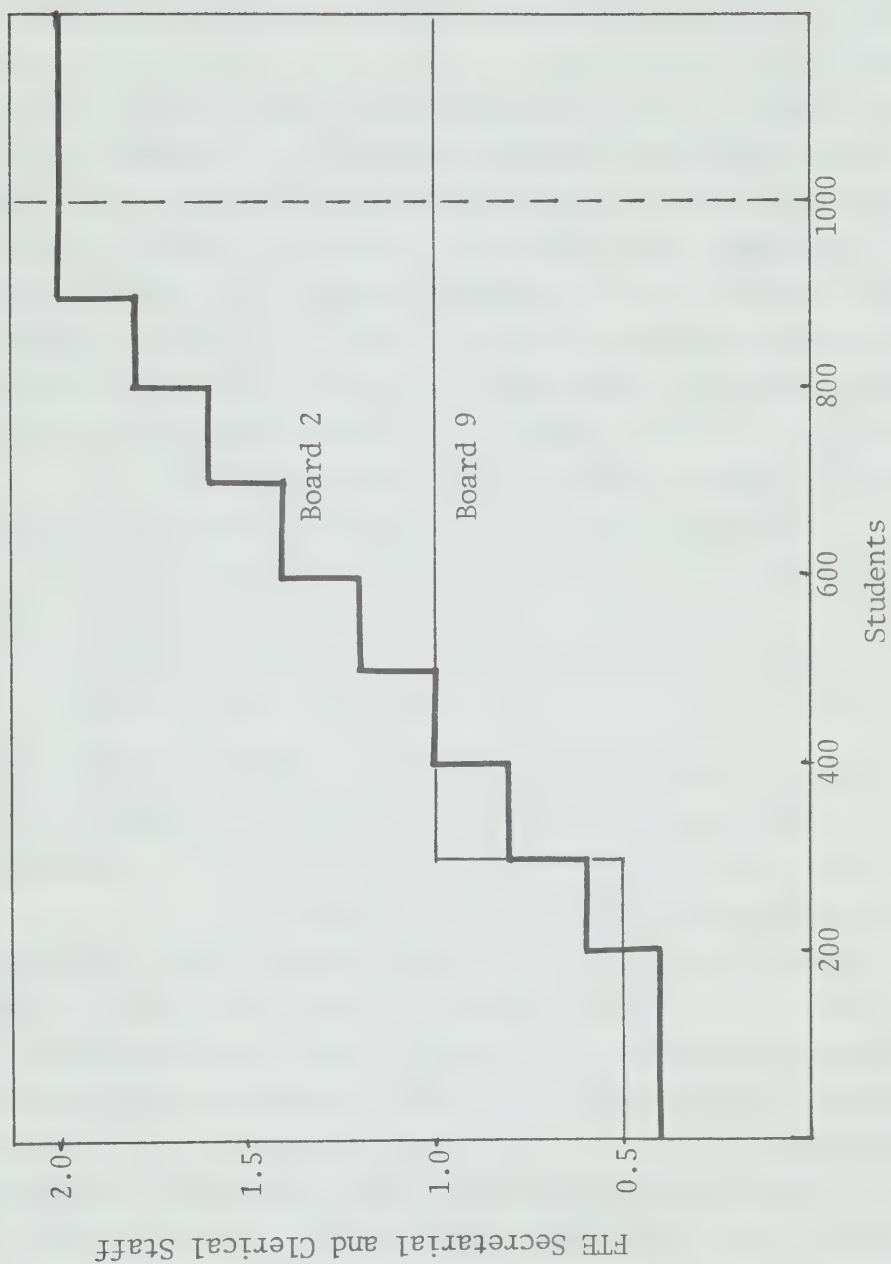
Board	Formula			Index of Generosity
	Students	Classes/ Teachers	Staff	
Board #1	0 - 499		1.0	1,324.0
	500 - 850		1.5	
	over 850		2.0	
Board #2	0 - 199		0.4	1,119.6
	200 - 299		0.6	
	300 - 399		0.8	
	400 - 499		1.0	
	500 - 599		1.2	
	600 - 699		1.4	
	700 - 799		1.6	
	800 - 899		1.8	
	900 - 1,000		2.0	
Board #3		1 class		800.5
		2 classes	0.07	
		...	0.14	
		15 classes and over	1.00	
Board #4	not available			
Board #5		4- 5 teachers	0.30	769.0
		6- 7 teachers	0.40	
		...		
		16-17 teachers	0.90	
		18 and over	1.00	
Board #6	25 - 74		0.30	1,072.2
	75 - 124		0.40	
	275 - 324		0.80	
	325 - 474		1.00	
	475 - 524		1.20	
	525 - 574		1.30	
	675 - 724		1.60	
	over 724		1.60	
Board #7	Basis of need			
Board #8		4.0 teachers	0.20	691.0
		4- 5.9 teachers	0.30	
		6- 7.9 teachers	0.40	
		8-10.9 teachers	0.50	
		...		
		20-22.9 teachers	0.90	
		23.0 and over	1.00	

.....cont'd.

TABLE 22 (Cont'd.)

Board	Formula			Index of Generosity
	Students	Classes/ Teachers	Staff	
Board #9	0 - 300		0.5	850.0
	300 or more		1.0	
Board #10	0 - 200		0.5	815.0
	201 - 300		0.6	
	501 - 600		1.0	
	600 or more		1.0 +	
Board #11		0 - 14 teachers	0.5	710.0
		over 14 teachers	1.0	
Board #12		2 classes	0.1	748.0
		3 - 4 classes	0.2	
		5 - 6 classes	0.3	
		13 - 14 classes	0.7	
		15 or over	1.0	

FIGURE 6
ALLOCATION FORMULAE FOR ELEMENTARY SECRETARIAL AND CLERICAL
STAFF FOR BOARDS #2 AND #9



Generosity and Responsiveness of Formulae

In order to compare the relative generosity (or frugality) of the various formulae, the cumulative area under the graphs were computed. This area serves as an index of a formula's relative generosity. The larger the area, the more generous the formula. In order to do this, several steps were necessary.

First, all of the variables representing need -- i.e., number of students, number of teachers, and number of classes -- were converted to the same unit of measure, the number of students. For this, equivalences of 30 students per class and 30 students per teacher were assumed. While these equivalencies are probably accurate for larger schools, enrolling 200 or more students, they are probably too high for smaller schools in which class sizes and numbers of students per teacher tend to be higher. Therefore, they may result in an underestimation of the generosity of formulae based on numbers of teachers or classes.

The second step in calculating the cumulative area under the graphs was summing the areas of the rectangles under each of the steps of each function. For example, the first number in the sum for Board #8 was $.40 \times 200 = 80$, since .40 FTE staff are allocated for the range from 0 to 200 students. The second term was $.50 \times 100$ since .5 FTE are allocated to schools with enrolments in the succeeding range from 200 to 300 students. Other terms were determined in a similar manner up to the interval with 1,000 students as its upper bound. The various terms were then added to provide the index of generosity.

For Board #2, the total index was 1,120 as contrasted with only 850 for Board #9. The greater generosity of the formula for Board #2 is evident in Figure 6. It is easily seen that the cumulative area under it over the range from 0 to 1,000 students far exceeds that for Board #9's formula.

While the cumulative area under the graph of an allocation formula does not have any commonsensical meaning, it does provide a convenient index of generosity. The index totals are listed in the right-hand column of Table 22. The formula for Board #1 is seen to be the most generous, and that for Board #8 the most frugal.

The fact that one formula is more generous than another on an overall basis does not necessarily imply that it is more generous in every case. This can be seen in Figure 6, wherein the formula for Board #9 is seen to be more generous than that for Board #2 for schools enrolling up

to 200 students or from between 300 and 400 students. In the first interval, it allots .5 FTE staff as opposed to only .4 FTE staff for the other; in the second it allots 1.0 FTE staff as opposed to .8 FTE staff.

Clearly, the actual generosity of a formula in a given situation depends upon the distribution of school size in a board. For example, if all of a board's schools were in the 300 to 400 range, then the formula used by Board #9 would allot more staff positions both to individual schools and overall. On the other hand, if the schools were spread evenly over the entire range of size from less than 100 and up to 1,000, then the formula used in Board #2 would be the more generous. And, since the sizes of schools change from year to year, the effect of a given formula may change substantially from one year to the next.

One should be particularly aware of the effect a formula may have as enrolments decline. Consider, for example, what might happen to a school in a board with a two-step formula like that in Board #9. In one year, with 320 students enrolled, it would be assigned one full-time secretary; but if enrolment declined to 290 students in the following year, it would be allotted only a half-time secretary. On an aggregate basis, this formula could have a sudden and dramatic impact on the total number of staff employed in a board if a large number of schools dropped below the 300 mark in one year.

At the same time, a two-step allocation function presents another problem: it does not reflect enrolment declines until a given mark is reached, so there may be a considerable time lag between a decline in enrolment and a reduction in the number of staff. On a permanent basis, it could also mean that staff levels in very small schools with fewer than 100 students would be maintained at too high a level.

A formula's sensitivity to changes in enrolment can be increased or decreased by narrowing or widening its steps, respectively. A formula with just two or three wide intervals in which schools are classified will respond slowly to changes in enrolment, but when change does occur its magnitude will be dramatic. On the other hand, a formula with many small intervals would give a more immediate and smoother response, but might not allow a sufficient time lag between the loss of students and the decline in work load.

One interesting lack in all but one of the formulae reported is a recognition of the decreasing marginal impact of additional students. In general, the formulae increase staff allotted in increments of the same

size regardless of the number of students in a school. The same increment in staff is given for moving from step 6 to step 7 as from step 1 to step 2. The one exception to this is the formula for Board #8. In it, an increase from 4 to 5.9 teachers earns .10 additional FTE, whereas it takes an increase from 8 to 10.9 teachers to earn an additional .10 FTE staff for schools in that range. In the smaller school, each additional teacher earns .05 FTE staff for the school, but in the larger school each additional teacher accounts for an increase of only .03 FTE. And for additional teachers in schools with 23 or more staff, no more secretarial assistance is granted.

Generosity of Formula by Board

Although the actual generosity of a formula can only be determined by applying it to the size distribution of schools in a board, it is possible to use the area index to measure the formula's theoretical generosity so that one can investigate the nature of boards which have adopted formulae offering different levels of support. To do this, the average values of the index of generosity were computed for the various categories of boards broken down by size, statute status (public/separate), percentage of French schools, location, rate of decline, and balance in supply and demand. The results are tabulated in Table 23.

Typically, boards with more generous formulae are large public boards with a low percentage of French schools and experiencing a medium rate of decline in enrolments. Less generous formulae tend to be found in medium or small separate school boards enrolling a larger number of French speaking students. There tends to be no relationship between the balance between the supply and demand for staff, and the generosity of the formulae.

The profile of the typical board with a generous formula is not unlike that for the typical board having a high staff to pupil ratio. To test this similarity, the rank order correlation coefficient was found between staff to pupil ratios and the generosity index values; a correlation of .32 was found. Though not statistically significant, this value is in the expected direction. A larger value was probably not found because elementary school secretarial and clerical staff form a relatively modest proportion of the total complement of non-certificated staff.

TABLE 23

AVERAGE AREA UNDER FORMULA GRAPH BY SIZE, PERCENTAGE OF FRENCH
SCHOOLS, STATUTE STATUS, LOCATION, RATE OF DECLINE,
AND SUPPLY/DEMAND BALANCE

Variable	N	Mean
<i>Size</i>		
Small	3	799
Medium	5	839
Large	2	1,035
<i>Percentage of French Schools</i>		
Low	5	966
Medium	3	837
High	2	780
<i>Statute Status</i>		
Public	6	963
Separate	4	781
<i>Location</i>		
City	2	1,017
County	5	869
District	3	823
<i>Rate of Decline</i>		
Low	5	829
Medium	3	1,066
High	2	780
<i>Supply/Demand</i>		
Surplus	3	908
Shortage	7	882

Six of the eight public boards reported formulae for allocating secretarial and clerical staff to secondary schools (see Table 24). As with the elementary formulae, the secondary allocation rules take the form of step functions. However, all formulae are based on numbers of students; none are based on numbers of teachers or classes, as was the case with some elementary school allocation formulae. The width of the steps in terms of the numbers of students varies from 87 in Board #8 to 350 in Board #1. Most of the formulae take the fixed costs of operating a secondary school into account by making a basic allocation of two or three staff per school regardless of the school's size.

In comparison to the elementary formulae, those for secondary schools are both more generous and more uniform. Typically, the formulae would provide about five secretarial and clerical staff for a secondary school with 1,000 students, whereas the typical elementary formula would have provided at most two staff members. The greater uniformity of the secondary formulae can be seen from the values of the generosity index which were computed over a range in school size from 0 to 1,500 students. For secondary formulae, the values range from a low of 5,100 to a high of 6,900, a difference of 1,800. Expressed as a ratio of the index average of 5,872, the range is 31% of the average. In contrast, the elementary figures ranged from 691 to 1,324, a difference of 633. This range equals 71% of the average value of 890.

Rideout (1977) noted the tremendous variation in staffing patterns present in elementary schools. It appears that much of this variation can be explained by the variation in staff allocation formulae. Rideout does not include an analysis of staff in secondary schools, but our data suggest that greater uniformity would be found at that level. We are not able to explain why there tends to be a consensus among the various boards on the allocation of secretarial and clerical staff to secondary schools, but a lack of consensus on their allocation to elementary schools.

The relationship between the actual generosity of a formula and the distribution of school sizes in a board that was noted for elementary schools is equally applicable to secondary schools. In particular, since most formulae recognized fixed costs, most of the formulae in Table 24 would become more generous, relatively speaking, as school enrolments decrease. On the whole, the secondary formulae would tend to be more sensitive to changes in enrolments than the elementary formulae since

TABLE 24
SECONDARY SECRETARIAL AND CLERICAL STAFF ALLOCATION FORMULAE

Board	Formula		Index of Generosity
	Students	Staff	
Board #1	0 - 850	3.0	5,450
	851 - 1,200	4.0	
	1,201 - 1,800	5.0	
	1,801 - 2,100	6.0	
	2,101 and over	9.0	
Board #2	0 - 500	2.0	5,100
	500 - 699	3.0	
	700 - 799	4.0	
	800 - 899	4.5	
	900 - 999	5.0	
	1,000 - 1,099	5.5	
	1,100 - 1,299	6.0	
	1,300 - 1,500	6.5	
Board #3	0 - 600	3.0	6,900
	601 - 800	4.0	
	801 - 1,000	5.0	
	1,001 - 1,200	6.0	
	1,200 and over	7.0	
Board #4	not available		
Board #5	0 - 450	2.0	5,500
	451 - 750	3.0	
	751 - 1,000	4.0	
	1,001 - 1,300	5.0	
	1,301 - 1,600	6.0	
	1,601 - 1,900	7.0	
	1,901 - 2,200	8.0	
Board #6	0 - 374	2.0	5,812.5
	375 - 499	2.5	
	500 - 624	3.0	
	625 - 749	3.5	
	750 - 874	4.0	
	875 - 999	4.5	
	1,000 - 1,124	5.0	
	1,125 - 1,249	5.5	
	1,250 - 1,374	6.0	
	1,374 - 1,499	6.5	
	1,500 - 1,624	7.0	

.....cont'd.

TABLE 24 (Cont'd.)

Board	Formula		Index of Generosity
	Students	Staff	
Board #7	Basis of need		
Board #8	0 - 218	1.0	6,471
	219 - 306	1.5	
	306 - 393	2.0	
	394 - 481	2.5	
	482 - 568	3.0	
	569 - 656	3.5	
	657 - 743	4.0	
	744 - 831	4.5	
	832 - 918	5.0	
	919 - 1,006	5.5	
	1,007 - 1,093	6.0	
	1,094 - 1,181	6.5	
	1,182 - 1,268	7.0	
	1,269 - 1,356	7.5	
	1,357 - 1,444	8.0	
	1,445 - 1,531	8.5	

they include a minimum of five steps, as opposed to two for some elementary formulae. On the other hand, since most secondary school formulae allocate secretarial and clerical staff on a whole of half FTE basis, any downward adjustments in the numbers of staff allocated are likely to have substantial impact on the schools affected.

The formula for Board #6 included a clause that gives greater autonomy to the principal of a school than is suggested by the formulae for other boards. In this board, a principal may, if he or she chooses, reduce the formula below the .5 FTE staff allocated for every 125 students, and use the monetary savings for other purposes. That is, the school retains the funds allocated by the board, but may use some of them for alternative purposes. Conversely, the principal may also increase the staff level above that indicated by the formula, taking the necessary funds from the supply budget. Such flexibility would appear to be quite helpful in easing the transition from one level of staffing to another. No such flexibility was noted for any elementary formula.

As for secretarial and clerical staff, most boards reported that a formula is used to allocate caretaking and cleaning staff to schools. Formulae varied from a simple allocation based upon the square footage of the school buildings involved, to a moderately complex formula with nine terms.

Board #1 is in a unique position in comparison to the other boards in that it is allocated funds for operation of schools from the Metropolitan Toronto School Board. The formula used for this purpose (Appendix L) includes recognition of gross area, enrolment, teachers, elevators, site acreage, swimming pools, portables, and numbers of schools. The board reported that the formula generates sufficient revenue to employ one staff member for every 15,000 square feet.

Board #2 also employs one staff member for each 15,000 square feet, but other factors were reported as being taken into account as well.

Board #5 determines the number of caretaking hours required per school on the basis that one person should be allocated for every 19,500 square feet. A bonus of one staff member for every 75,000 square feet is added for each secondary school.

Board #8 uses a formula with five factors that were previously noted in the Metro formula. In essence, this board's formula allots one staff member for a typical school with eight teachers, 225 pupils, 11 teaching areas, 12,000 square feet, and a site of three acres. The allocation for a given school is then adjusted against this standard by use of the following formula:

$$N \text{ staff} = \left[\frac{N \text{ teachers}}{8} + \frac{N \text{ pupils}}{225} + \frac{N \text{ teaching areas}}{11} + \frac{\text{sq. ft.}}{12,000} + \frac{\text{Acres}}{3} \right] \div 5$$

Board #10 allocates caretaking staff according to the numbers of classrooms: up to 8 classrooms, 1; 9-14 classrooms, 2; 15-19 classrooms, 3; and over 20 classrooms, 4.

Board #12 defines a standard school requiring 40 man-hours of work per week as one with seven classrooms and one all purpose room. Assistance for individual schools are prorated against this figure.

Other boards in the sample, though not providing formulae, indicated that staff were assigned on the basis of the size of the school, level of utilization, number and type of cleaning areas, and construction of the school.

In their comments, board personnel noted that school operations is one area that is particularly unaffected by declining enrolments, except when schools close. This statement is corroborated by the formulae used. In them, numbers of students play a relatively insignificant role.

One method of saving money and gaining flexibility that several boards reported was the practice of signing contracts with private companies for cleaning schools. Informal discussions indicated that this method is more economical since contracts are typically awarded to the lowest bidder on a biannual basis and any continuing obligations to permanent staff are avoided. However, the service is usually less satisfactory than that provided by their own staff.

A second method of reducing expenditures is increasing work load. The formulae above indicate different expectations among boards as to what one person can be expected to accomplish. Square footages per person ranged from 12,000 (with adjustments) to 19,500. Of course, standards of maintenance will also vary from community to community.

Other Non-Certificated Staff

Reports of allocation formulae for lay assistants and audio-visual personnel were scattered, so generalizations are difficult.

The most common practice as far as lay assistants are concerned is to allocate one each to Kindergarten classes, particularly if the class exceeds some minimum enrolment, such as 25 children. Four boards reported a practice like this. One board also reported allocating one lay assistant to each behavioural and multiple handicapped class, while another left the option of having lay assistants in a school up to the individual principal, with the understanding that each lay assistant employed reduced the number of academic staff by .5 FTE. The latter regulation was the only one noted which seemed to place certificated and non-certificated staff in direct competition for jobs.

A formula for allocating lay assistants to secondary schools was reported by one board, Board #6. Allocation is by enrolment: 0-800, 1; 801-1,000, 2; and over 1,000, 2.5. The allocation for schools with over 1,000 students enrolled includes a position for an administrative assistant. The terms of this allotment recognized the possibility of a decline in enrolment by allowing for the administrative assistant to be retained if enrolment falls below 1,001. However, it specifies that after one year, the position must be covered within the regular per pupil staff allotment.

Only two boards reported a systematic method of assigning audio-visual technicians. In Board #1, each junior high school and each secondary school is assigned one; in Board #5, each secondary school is assigned one.

CENTRALIZED SERVICES

Remaining non-certificated staff tend to be part of centralized units which serve the whole board on request or need. We would include within this group the secretarial and clerical staff assigned to the central office, though we do not deal with these specifically.

Plant Maintenance

Plant maintenance is provided on a system-wide basis in the sample boards; there is no allocation by formula to schools. Typically, the smaller boards employ one or two generalists to do repairs, contract for the regular services of specialists, and tender bids for major renovations.

The complexity of the Metropolitan Toronto environment is reflected in the formula which allots Board #1 its funds for maintenance (Appendix M).

Guidance, Counselling, Psychological, and Attendance

Staff in these four areas serve boards on a system-wide basis in the three boards reporting the employment of non-teaching staff in these areas. In other boards, all personnel involved in technical and specialized responsibilities in these areas were apparently certificated teachers.

Psychological services and attendance counselling is typically provided on a need or referral basis. One board estimated that psychological services were split evenly between elementary and secondary school children.

The effects of declining enrolments on job opportunities for non-certificated staff were clear in one board where a half-time non-certificated attendance counsellor was replaced by a quarter-time certificated staff member. On the other hand, in another board the implementation of a new Early School Leaving Committee resulted in the addition of a half-time non-certificated staff member to help the full-time certificated attendance counsellor with the work load.

On the whole, there was very little evidence of an appreciable number of professionals in the helping professions who did not hold teaching

certificates being employed in the sample boards. Presumably, these roles have either been eliminated, as in the case of health, or are filled by certificated personnel. In the case of psychological services, this possibility raises the question as to the professional qualifications of the individuals involved to perform these services, an issue that is considered in a later chapter.

SUMMARY

Formulae are regularly used to allocate secretarial, clerical, and care-taking staff to schools. These formulae determine both the total number of staff that will be allocated, and the number which each school will be assigned.

In the case of secretarial and clerical staff, the formulae are all step functions, with staff being allocated in units of from .07 to 1.0 full-time equivalent staff. The size and number of steps are critical in determining how a given formula will affect a school's allocation as enrolment declines. Steps that are too infrequent and too large could cause disruptive changes. Steps that are too frequent and too small may reduce staffing too rapidly, allowing no time lag during which work loads could be adjusted. Few formulae give the principal the flexibility that is needed to adjust the numbers of staff to meet these problems.

Formulae for allocating caretaking staff are more complex than those for secretarial and clerical staff, and are tied to the size and character of the physical plant involved rather than numbers of students. These formulae would not be responsive to declines in enrolment, but then neither is the work load except when schools are closed. A particular threat to caretaking staff is the possibility that the work will be contracted out. Contracted services tend to be less expensive, but of lesser quality, than those provided by regular staff.

Maintenance and various technical types of assistance in guidance, counselling, attendance, and psychological services tend to be provided on a centralized basis. Larger boards maintain specialists in all areas, while smaller boards tend to rely on generalists. Because many smaller boards contract out for special maintenance work, and because many staff involved in guidance, counselling, psychological and attendance services may be certificated, it is difficult to compare the different levels of service in the sample boards with the data at hand.

Cases were noted where the numbers of non-certificated staff have been reduced, either by decreasing the generosity of the allocation formula or transferring responsibilities from non-certificated to certificated staff. How the staff were reduced, whether by attrition or dismissal, is the topic of the next chapter.

CHAPTER V

ATTRITION AND DISMISSAL OF STAFF

The spectre that arises from consideration of the problems posed by declining enrolments is the possibility of massive lay offs. We have already seen, however, that in only five of the twelve boards are there likely to be surpluses of staff. Examination of the experience in the boards to date is also encouraging, in that attrition has been and will be able to solve many problems.

ATTRITION

Boards were asked if "non-certificated staff had been reduced in size through a policy of attrition adopted as a direct or indirect response to financial stringencies." Nine of the twelve boards responded that they had.

As of January 1978, Board #1 had reduced its number of caretakers by 52, and the number of school office staff by seven. Other vacancies are not being filled, with the intention of reducing the number of permanent staff in some areas. In particular, one-quarter of all maintenance work is now being contracted out. In this way, it is hoped that no permanent staff will have to be laid off as the decline in enrolment lessens the demand for services.

Board #2 has decreased the number of staff through attrition, and follows the practice of placing the names of employees no longer needed as the result of cut-backs on an "available for transfer" list. Given that the balance between supply and demand for this board was in favour of demand, this board may be able to accommodate declining enrolments without staff lay offs.

Though Board #5 has the lowest non-certificated staff to certificated staff and non-certificated staff to student ratios among the public boards, it reported considerable reduction in staff through attrition. In 1976, registered nurses in secondary schools had been reduced in number, co-op students from a nearby university had been dropped, casual secretary use in secondary schools had been discontinued. As well, the formula for allocating caretaking staff had been revised downward in both 1972 and 1976 by increasing the square footage for which one individual was responsible. The current figure, at 19,500 square feet per person, was the largest figure used among the boards in the sample. Three positions were eliminated by these reductions in formula, but the cut backs were made by attrition. This board also has the second most frugal allocation formulae among public boards for the allocation of secretarial and clerical staff, to both elementary and secondary schools.

Boards #7 and #8 have had reductions in staffing due to financial stringencies. In one case, the closing of some facilities also meant there was an accompanying decrease in demand.

Board #9, a separate school board in Northern Ontario, reported a 30% reduction in administrative staff and in plant maintenance. Psychological services have been dropped, and plant operation been reduced by 10% -- all through attrition.

Boards #10 and #11 have also reduced staff through attrition. Part of this was accomplished in Board #11 by closing 11 schools in 1977 alone. Though enrolments in this board have declined by one-third, specialized services have been reduced two-thirds. Discouragingly, the supply and demand balance is weighted far on the side of supply in this board. Further declines in enrolment may well necessitate lay offs.

Three boards, #3, #6, and #12, reported that no reductions had been necessary. Should they become necessary, all three are in good positions in terms of the balance of supply and demand. None of the three are likely to have surplus staff as enrolments decline.

LAY OFFS

Lay offs during the past year that were due to financial stringencies occurred in only one of the boards surveyed, Board #5. In all, 16 FTE staff were dismissed. The equivalent of ten full-time employees engaged in lunch room supervision lost their positions, as did six full-time registered nurses employed in secondary schools.

Were the financial stringencies that caused the reduction in positions the result of declining enrolments? That is, if enrolments had been steady, would the boards have had sufficient revenue to maintain some or all of the positions eliminated through attrition or lay off?

The answer from Board #5, which had the lowest non-certificated staffing ratios among the public boards and which had been forced to lay off 16 FTE staff in 1977, is perhaps the most succinct:

Total enrolments did not decline significantly from September 30, 1975 to September 30, 1977. Elementary panel declined by 141 students while the secondary panel increased 15 for a net two year decline of 126 students. The revenue lost [from the province] coupled with that portion of cost obtained from the municipal tax levies would not have saved many of the positions lost.

Their judgement may be somewhat pessimistic. At the 1978 grant ceiling for recognized ordinary expenditure, 126 elementary students would earn a board \$162,540 from local and provincial sources. Nevertheless, this board, which in 1976 spent \$1,240 per elementary student, clearly illustrates the financial dilemma of boards spending at or below grant ceilings. As enrolments decline, they lose not only the provincial share of the revenue the students "earned," but the local shares as well. This occurs because, as enrolment drops, a board's equalized assessed value per pupil rises, and as it rises, the provincial government pays a smaller share of the cost of each student enrolled in the board. Thus, any savings due to declining enrolments accrue not to the local board, but to the province as a whole (Rideout, 1977, p. 121). Of course, boards have the option of spending over the grant ceilings. However, Board #5 has seen its local tax bill increase from \$4,000,000 to \$8,000,000 in five years, and its trustees may well be reluctant to increase taxes further.

The same points raised in Board #5's response to the query about the causes of its financial stringencies were repeated in several other boards, though respondents for Boards #1, #8, and #9 felt that declining enrolments were the main culprit. Board #2's response suggested that increased costs, more than anything else, was the major cause of difficulties.

Regardless of the reasons for financial stringencies there was a consensus that even including a weighting factor for declining enrolments

in the provincial education grant formula, a factor which had been included between 1972 and 1975, would not solve the problem. All that could be done, in their view, was a long term financial commitment from the province that would enable them to plan more effectively.

The need for a long term financial plan by the province was driven home by the business officials who were involved in planning their boards' budgets at the time the data were collected. Several indicated that for 1978, as in 1976, major changes in the grant regulations forced them to rework much of their boards' budgets. The fact that when regulations are announced in January or February, the boards are already in their fiscal year creates additional problems. Typically, any budget shortfalls will have to be made up in the second half of the fiscal year alone.

SUMMARY

To date, the reduction in the numbers of non-certificated staff in Ontario school boards has proceeded primarily through attrition. There is a consensus that declining enrolments will result in a reduction of staff, though the degree of reduction is uncertain. The major management problem perceived is the uncertainty, from one year to the next, about the magnitude and form that provincial grants will take. Staff members face these same uncertainties in their own jobs. It is for this reason that many have formed bargaining units and insisted on clauses related to seniority and lay offs in their contracts, as we shall see in the next chapter.

CHAPTER VI

UNION CONTRACTS AND THE REDUCTION IN STAFF

There are many different reasons for employees to form bargaining units and, having formed them, to bargain for various clauses in their contracts. During the period of growth in the size of school boards, most bargaining issues raised by their employees revolved around the allocation of resources. Hence, an agreement with school bus drivers may include a clause describing procedures for assigning brand new school buses, and all agreements include clauses that ensure promotions are fairly made. But in times of staff reduction, job security becomes the pre-eminent issue. Seniority, always important, becomes more so. Seniority in a given unit is not enough; seniority at a given level is also demanded. Procedures for lay offs also take on a new importance, as do procedures for recall of staff. To ensure that no staff members are displaced when it is not absolutely necessary, demands are made for full information on hiring, firing, retirements, deaths, and disabilities. Clauses are negotiated specifying when services can be contracted out. And, finally, recognizing that grievances are bound to occur as staff is reduced, special procedures are developed to resolve grievances that arise from lay offs.

Not all of the school boards in Ontario have signed agreements specifying all of the clauses suggested above, but the process has begun. Some, escaping the ravages of major declines in enrolment, may never have to. They, unfortunately, are few in number.

BARGAINING UNITS BY BOARD

Of the 12 sample boards, 11 were asked to provide information on union agreements. Of the 11, one indicated that it had none. In the others, agreements had been signed with between one and five bargaining units.

In most cases these were locals of the Canadian Union of Public Employees (CUPE), though in a few instances they were other unions or staff associations recognized as bargaining agents.

There were a total of 19 collective agreements reported in the 11 boards surveyed. These were distributed across all employment categories except health, as shown in Table 25. Plant operations were covered by agreements in 10 of the boards, plant maintenance in nine, and secretarial and clerical staff in school office administration in six of them. All but one of the agreements for plant maintenance, for plant operations, and for secretarial and clerical staff were with union affiliates.

Less frequently covered by collective agreements were lay assistants in day school regular programs, audio-visual technicians, guidance and counselling specialists, and personnel in libraries, attendance, and food services. Personnel in psychological services were covered in only one, non-union agreement.

CLAUSES RELATED TO JOB SECURITY

The major issue that confronts non-certificated staff in boards experiencing financial stringencies that have been brought about both by declining enrolments and less provincial support for education appears to be job security. This issue manifests itself in several ways. First, there is the question of the rights and welfare of senior employees. How can these be protected? Second, if it is necessary that there be a reduction in work force, the question arises as to the order in which staff are to be laid off. Complementing this issue is that of the order of staff recall. And, during a lay off, what are the rights of those laid off? Do they accumulate seniority during this period? How long do they retain the right of recall? Finally, there is the threat common to all employees, senior or junior, that their entire unit may be dismissed, their functions either being discontinued or contracted out to an outside firm or organization. How can bargaining units protect themselves against this possibility?

TABLE 25

BARGAINING UNITS BY CATEGORY AND BOARD[†]

Category of Staff	Board Number											
	1	2	3	5	6	7	8	9	10	11	12	
School Office Admin. Sec. & Clerical	1	-	1	1	A	1	1	-	-	-	-	
Day School Regular Lay Assistant	1	-	1	-	-	-	1	-	-	-	-	
Audio Visual Tech. and Spec.	1	-	1	1	-	-	1	-	-	-	-	
Guidance and Counselling Tech. and Spec.	-	-	-	1	-	-	1	-	-	-	-	
Library Tech. and Spec.	-	-	-	-	-	-	1	-	-	-	-	
Psychological Services Tech. and Spec.	A	-	-	-	-	-	-	-	-	-	-	
Attendance Tech. and Spec.	A	-	-	1	-	-	-	-	-	-	-	
Health Tech. and Spec.	-	-	-	-	-	-	-	-	-	-	-	
Food Services Tech. and Spec.	-	-	2	-	-	-	-	-	-	-	-	
Plant Operations Tech. and Spec.	2	1	2	2	1	1	2	-	A	1	1	
Plant Maintenance Tech. and Spec.	3	1	2	2	1	1	2	-	A	1	-	
Transportation Tech. and Spec.	4	-	-	-	1	1	-	-	-	1	-	

[†]Numbers represent local union affiliates. Within boards, categories marked with the same number are in the same affiliate. Letters represent employee associations certified as bargaining units. Data were not collected from Board #4; Board #9 has no union agreements.

Seniority Clauses

The traditional purpose of seniority clauses has been to give employees "an equitable measure of job opportunity and job security."¹ In the past, the emphasis has been on opportunity: most agreements specify how jobs are to be posted so that all employees may be aware of opportunities for promotion; how seniority is to be weighed in the process of selection; and how an applicant may grieve if he or she believes that an improper assessment has been made. As systems decline in size, the opposite process becomes the key issue. Namely, how orderly *downward* mobility is to be accomplished. In many respects, this presents a more difficult management problem since, in theory, the elimination of a single position occupied by a senior employee can set off a bumping chain that would see virtually every employee moved to a position of less responsibility, pay, or status. When promotion is the issue, those who are passed over suffer no actual loss; when retrenchment is the issue, everyone may suffer.

Given the role of seniority in determining job security, its operational definition becomes of utmost importance. Its definition can become surprisingly complex if it includes distinctions among seniority within functional specialties, hierarchical levels, full- and part-time positions, etc.

Table 26 provides brief versions of the six elements found in seniority clauses in the 13 agreements supplied by the sample boards which serve to define the concept. We shall discuss each of these briefly, giving examples of some of the clauses and their implications. We remark as well about the distribution of various clauses among the boards, and the differences between union and non-union agreements. Our purpose, it should be noted, is not to evaluate the various clauses or to suggest that any or all should be included in agreements between boards and non-certificated staff bargaining units. A clause that may be deemed of importance in one context may be totally irrelevant in another. Whether or not a given clause should appear in a particular agreement is, of course, a matter to be decided by the parties to the agreement over the bargaining table.

¹All clauses are quoted from original sources. References are not given in order to protect the anonymity of the boards.

TABLE 26

CLAUSES IN CONTRACTS DEALING WITH SENIORITY, LAY OFF, AND RECALL[†]

Topic/Clause	Board #1												
	1	A	2	3	4	1	2	3	6	7	10	11	12
Seniority													
Seniority by function or level	N	N	Y	Y	Y	N	N	N	N	Y	Y	N	N
Seniority by part- or full-time	NC	NC	NC	NC	NC	Y	Y	Y	Y	NC	NC	NC	Y
Seniority accumulated during lay off (months)	3	3	0	12	3	0	12	NC	NC	NC	NC	NC	NC
Seniority accumulated while transferred (months)	Y	Y	N	N	N	N	N	NC	N	N	NC	6	Y
Retention of seniority during lay off (months)	12	12	12	12	12	6	12	NC	24	24	NC	12	12
Probation period (months)	6	12	6	6	6	4	3	NC	3	3	6	2	3
Lay Off and Recall													
Order of lay off	S+	S+	S	S+	S+	S	S	S	S+	S	S+	S+	S
Order of recall	S+	S+	S	S+	S+	S	S	S	S+	S+	S+	S+	S+
Bumping procedure on lay off	NC	NC	Y	Y	Y	N	Y	NC	Y	N	NC	NC	NC
Bumping on return from transfer	N	N	N	N	N	NC	NC	NC	Y	Y	NC	NC	NC
Recall Rights during forced transfer (months)	NC	NC	NC	30	NC	NC	NC	NC	NC	NC	NC	NC	NC
Frequency of seniority, employment lists (mths)	12	12	6	6	6	12	12	12	12	12	6	1	6

TABLE 25 (Cont'd.)

Topic/Clause	Board #1												
	1	A	2	3	4	1	2	3	6	7	10	11	12
Rights and Benefits													
Loss of seniority due to absence without leave (days)	3	3	3	3	3	0	0	0	NC	5	NC	2	3
Loss of seniority due to failure to return from lay off (days)	7	7	7	7	7	7	7	7	NC	7	NC	14	5
Retention of benefits during lay off (months)	NC	NC	NC	NC	NC	NC	NC	NC	NC	1+	NC	NC	12+
Contracting													
Contracting out services	NC	NC	NC	NC	NC	C	NC	NC	NC	C	NC	C	C

†Numbers indicate union agreement; letters non-union agreements.

Seniority by Function and Level

Clauses which define seniority within certain specific functional areas or within given levels of hierarchy are found in five agreements. In their effect on lay off procedures, the two types of seniority prove to be very different.

Functional specialization implies that a bargaining unit is in fact divided up into two or more independent subunits. That is, seniority is not bargaining-unit-wide, but only within the area of specialization. Separate seniority lists are compiled for each group. The effect of this definition of seniority is apparent when lay offs occur, since lay offs are usually related to seniority. Lay offs would occur by specialization, and in theory it would be possible for one section of the bargaining unit to be hiring while another part is laying off employees.

An example of seniority by function is found in Board #1's agreement with plant maintenance personnel. In it, seniority is by craft, 24 of which are listed in the agreement. The same board's contract with transportation personnel has three seniority groups -- bus drivers, truck drivers, and garage workers. This latter agreement contains a clause unique among the contracts studied. It allows for recall rights for employees of one seniority group who have been transferred to other bargaining units within the school board. Note that the employee has no transfer or bumping rights to other seniority groups within the unit:

It is understood and agreed that an employee laid off from his group under this clause shall have no right to transfer to or displace a junior employee in any other group. In the event that an employee is displaced from his seniority group pursuant to the provisions of this clause but rather than being laid off from employment with the Employer is transferred to another bargaining unit of the Employer, then, for a period of 30 calendar months he shall retain recall rights to his former seniority group and thereafter he shall cease to have any recall rights provided, however, that an employee shall be permitted to exercise such recall rights on one occasion only during his period of employment with the Employer.

Seniority within function seems to provide a very orderly mode of deciding who should be laid off: the individual with least seniority. No one else is displaced in the process.

Seniority by hierarchical level is only found in units wherein there is a progression of positions all in the same functional area. One good example is plant operations. Caring for a large and complex secondary

school demands far more employees, some with superior skills both in knowledge and supervising ability, than does caring for a small elementary school. Yet, unlike tradesmen, caretakers are generalists, the differentiation is by levels of responsibility rather than type of skill. Hence there is a natural justification for grading positions to form a hierarchy.

Not surprisingly, those involved in plant operations are interested in job security at a given level. To satisfy this desire, the collective agreement negotiated in Board #1 thus defined two types of seniority -- "Board Seniority" and "Code Seniority." There are 10 code positions, each referring to different levels of responsibility. Code 1 includes caretakers with 4th and 3rd class certificates; Code 4 includes head caretakers of public schools up to 14 rooms; Code 6 includes head caretakers of public schools with 26 or more rooms; and Code 8 includes head caretakers at high schools with up to and including 1,599 students.

The importance of the issue of seniority by hierarchical positions combined with the intricacies of the definition and its implications for staff assignments are such that we quote the clause in full:

Seniority as referred to in this Agreement shall be of two types -- "Board Seniority" and "Code Seniority". "Board Seniority" shall mean length of continuous service in the employ of the employer. "Code Seniority" shall mean length of continuous service within a code as listed on Schedule A provided, however, that the Code Seniority of an employee who has one year or more continuous service in that code shall be deemed to be equal to his Board Seniority. If an employee is transferred to a different Code then his Code Seniority in that Code to which he is transferred shall commence from the date of that transfer, and after one year continuous service in that Code, it shall be deemed to be equal to his Board Seniority, provided that in all cases an employee's Code Seniority in Code 1 shall be deemed to be the same as his Board Seniority.

In the event that an employee voluntarily or by demotion transfers to a lower rated Code other than Code 1, then his Code Seniority in that Code to which he is transferred shall commence from the date of his transfer. In the event that a school is reclassified into a different Code, then the Head Caretaker in that school shall forthwith be deemed for all purposes of this Agreement, to be reclassified in that different Code, whether it be a higher or a lower rated Code, provided that if it is a lower rated Code, then that Head Caretaker shall be deemed to have top Code Seniority in that lower rated Code.

Unlike the definitions of seniority by function, this definition of seniority by level allows the employee to move from one group to the other within

the bargaining unit. In particular, it specifies where the person is to be placed in the seniority list within another level. However, when it comes to lay offs, both Code and Board Seniority are invoked, as we shall see later.

The definitions of seniority by function and level discussed to this point were all selected from agreements in force in a single, large, urban, public school board. The remaining two boards which have agreements in which seniority is defined in this manner are very different types of boards.

Board #10 is a medium sized separate school board comprising a single county. Its agreement with a staff association covers both maintenance and operations personnel, but requires that separate seniority lists be maintained for the two groups.

Board #7, a small, public board in a northern district, has a union agreement that is still more inclusive. It covers secretarial and office workers as well as maintenance and operations personnel. Two seniority lists are maintained in accord with this contract, one for secretarial and office workers, and one for maintenance and operations staff.

Based on the findings for these three boards, we would advance the hypothesis that functional specialization is a function of the size of the board and that, given the acceptance of functional lines by the parties in question, there is no intrinsic conflict between the interests of those with different specialties that would prevent them from being part of the same bargaining unit, even in larger boards. This view is supported by the fact that in all boards except the first, maintenance and operations staff are in the same bargaining unit. Hence, seniority by function appears to serve the purpose of distinguishing between what amounts to separate bargaining units that are joined together for the purposes of negotiating their salaries and basic rights. From the perspective of the school system administrator who must manage retrenchment, it appears to matter little whether one or several bargaining units are involved (assuming the content of the agreements is similar) since it is the seniority lists that determine the pattern retrenchment must follow. This is not to say, however, that the number of bargaining units may not effect the relative effectiveness of the bargaining process, or the complexity involved in administering contracts.

Even in contracts that define seniority on a bargaining-unit-wide basis, there are often clauses that have the effect of creating separate

seniority groups, though not explicitly so. The clauses to which we refer are normally found in sections of the contracts related to lay offs, and they state that though the least senior person is to be laid off, the remaining staff members must be able to handle the work. An example of such a clause is found in the contract with maintenance and operations personnel in Board #11: "Seniority shall be the governing factor in promotions, demotions, transfers, lay-offs, and recall, provided that the more senior employee is qualified." Thus, if the most junior employee was an electrician who was needed by the board, he or she might be exempt from lay off while a more senior employee not holding such qualifications was laid off.

The same type of clause may also apply in the case where hierarchical level is concerned. Since remaining workers must be qualified, it follows one would not dismiss a competent head custodian with less seniority than a junior head custodian who was not able to carry out the greater responsibilities of the position.

The existence of such clauses may explain in part why none of the agreements covering secretarial and office staff formally recognize seniority rights by level, even though office staffs tend to be highly stratified.

Seniority by Part- or Full-Time

Almost all of the contracts reviewed recognize the rights of part-time employees to be offered the opportunity to join the staff on a full-time basis if opportunities arise. They also indicate that in such hiring the most senior part-time employee should be given first refusals, assuming the person is competent to fill the position. However, only five of the agreements include the distinction between full- and part-time employees in their definitions of seniority, and require that seniority lists of part-time employees be provided on the same basis as those for full-time employees.

The clause defining seniority in Board #12's agreement is typical of this type:

Seniority is length of service. The Employer shall maintain two (2) seniority lists, one for full-time and one for part-time employees, showing the date upon which each employee's regular service commenced. Current seniority lists shall be sent to the Union on October 1st and April 1st of each year.

For the purposes of clarity, part-time employees shall be defined as those employees who are employed for twenty-four hours per week or less. A part-time employee transferring to a full-time position may carry over to a full-time position one-half ($\frac{1}{2}$) of the hours worked for each year of part-time employment.

Of particular note in this statement is the relatively low definition of what constitutes full-time employment -- namely, more than 24 hours of work per week.

Without probing further, we cannot be certain as to why there is particular consideration of part-time employees in the agreements in question. We would advance the idea that the part-time caretaking and secretarial staffs covered by these agreements may be regular employees in smaller schools where full-time positions are not available. If so, then in their social relationships they may be looked upon as full members of the organizations, and not as transitory individuals without commitments. If this is correct, then clauses relating to part-time staff members may be assuming increasing importance as schools get smaller. This issue appears to be one that merits future investigation.

Seniority Accumulated During Lay Offs

To be laid off is to assume a rather anomalous position. The individual in question can be considered as one who is placed in a transition role. Transition roles are quite common in society; they usually precede a permanent or long term change in status; e.g., engagement before marriage and separation before divorce. During the period of transition, the individual typically has certain rights and responsibilities related to the position being assumed or being left behind. In the case of the person who has been laid off, these responsibilities may entail such matters as keeping the employer aware of their whereabouts; the rights may entail such matters as the one at issue here, the accumulation of additional seniority.

Accumulation of seniority is an important right. Now only may an individual's relative seniority be important in deciding the order of being laid off, but the amount of seniority possessed can determine other benefits, such as length of vacation. Hence, accumulation of seniority during lay off is of value to the employee.

Seven of the agreements studied have clauses or parts of clauses which speak directly to this topic. In two, the individual who is laid off is explicitly denied seniority credit for the entire period of lay off.

Three agreements allow the employee to accumulate an addition of three months of seniority during lay off, and two allow the accumulation of an additional 12 months.

Six contracts make no mention of this matter. We would presume that in these cases no seniority is earned during lay off.

Seniority Accumulated While Transferred

Many of the agreements contain clauses emphasizing that the contract does not cover the selection of individual for promotion to a position outside of the bargaining unit. A few acknowledge the possibility that an individual may transfer out of the bargaining unit for other reasons. Some deny the right of the employer to make such a transfer without the consent of the employee. One, quoted earlier, specifically denied the right of transfer to another seniority group within the unit, but gave generous recall rights should a person have been forced to transfer out of the unit in order to maintain employment. As with lay offs, some contracts include clauses that grant the right to accrue seniority during the time spent in service of the employer but out of the bargaining unit.

Of the 11 agreements which speak to this issue, three allow unlimited accrual of seniority during appointments outside the bargaining unit. It would appear these clauses would encourage members of the bargaining unit to assume supervisory roles outside the unit since, were they to return later, they would have lost no seniority relative to those who originally joined the unit with them. In essence, seniority is with the board rather than the bargaining unit. One agreement placed a limit of six months on the amount of seniority that could be accumulated during assignment to a position outside the bargaining unit. This limit amounts to granting the employee a probationary period in the other position during which they would not fall behind others in the unit in terms of accumulated seniority.

Seven contracts specifically deny additional seniority to individuals who have left the bargaining unit for positions elsewhere in the organization. This policy would seem natural in units which are shrinking in size and where lay offs are threatened. Each departure for another position would reduce the unit's strength by one, and thereby decrease the likelihood that any remaining member of the group will be laid off. On the other hand, it might discourage senior employees from risking promotion to a supervisory position, particularly if seniority in the new position did not recognize their years of previous service.

Two agreements do not mention accrual of seniority during a period of transfer. We would presume that none is earned.

Retention of Seniority During Lay Off

Quite aside from the issue of accruing additional seniority is that of preserving the seniority which one has during a period of being laid off. Eleven of the thirteen agreements recognize a certain period during which an individual who had been laid off has the right to be recalled without loss of previously earned seniority. Other clauses spell out how this process is to be carried out, but the main point is that upon recall the individual has seniority equal to that acquired previously to being laid off.

The period during which an individual may be recalled without loss of seniority is limited. If an individual is rehired after this period is over, he or she must serve a probationary period, and retains no seniority from the earlier period of employment. Clearly, in a time in which lay offs are expected, unemployment rate is high, and attrition rate is low, a long period during which recall is assured and seniority maintained is advantageous to the employee.

Eleven of the thirteen agreements (all union agreements) had a specific period of time named during which the right to recall with full seniority is guaranteed. In eight of these the period is 12 months, in one it is six months, and in the remaining two it is 24 months.

Probation Period

Probationary periods are important as far as seniority is concerned because after the probationary period is over, the employee is granted seniority credit for the period that has been worked. Very long probationary periods, such as found in the agreement with psychologists and attendance counsellors in Board #1, and very short periods such as those with maintenance, operation, and transportation staff in Board #11, may well have other functions related to the ease (or lack of ease) of entry into full membership in the bargaining unit. However, this possibility is beyond the scope of this study.

Overview

As we said earlier, seniority is a complex matter. It can be earned within functional areas or in hierarchical levels; for part-time or full-time

employment; for employment outside the bargaining unit while in another position, while on lay off, or, retroactively, during probation. Seniority may or may not be revoked when an individual leaves the bargaining unit, and the decision on this may depend on the reasons for the departure. As a rule, voluntary departures are looked upon with less favour than those forced upon the employee by staff cut backs. Even when full seniority is retained on departure from the unit, there is a time limit attached. If the individual does not rejoin the unit by the end of this period, all seniority is lost. One of the most important roles that seniority plays is that of deciding in what order individuals are to be considered for promotion or for lay off. It is the latter role that we consider next.

CLAUSES RELATED TO LAY OFF AND RECALL

All of the agreements studied had clauses that made reference to the lay off and recall of staff, though only two had entire articles devoted to the topic. Were lay offs always in the reverse order of seniority, and recalls always in the order of seniority, the clauses would be rather straightforward. However, this is not the case. Often, the issue of individual qualifications is involved, a matter which is not necessarily clear cut. Also, when positions in a hierarchical organizational structure are involved, as is the case with caretaking staff, the issue of bumping rights arises. Does a senior person who is displaced have the right to bump any less senior employee from his or her position? This issue of bumping rights also arises when transferees return to a bargaining unit from an appointment outside the unit.

To protect the rights and opportunities of those who have been laid off, contracts often include restrictions on the hiring of new employees while others are still on lay off. And, to ensure that this policy is enforced, some contracts require frequent reports by the board to the union describing all appointments, resignations, etc.

Order of Lay Off

Lay off clauses tend to require either that lay offs be in the reverse order of seniority or that they be in reverse order of seniority taking into account the qualifications of the staff involved. An example of the first type of clause reads:

In the event of lay off, employees shall be laid off in the reverse order of their seniority.

The second type of clause is more complex:

In all cases of lay-off and recall after lay-off the following factors shall be considered:

- (a) seniority
- (b) education, knowledge, and over-all qualifications to perform the normal requirements of the job.

Seniority shall govern where the matters referred to in factor (b) are relatively equal.

Six of the contracts have lay off clauses of the first type; these are indicated in Table 26 by an "S" in the row referring to the order of lay off for each agreement listed. The seven which had the second type of clause, which places additional conditions on the order of lay off, are indicated by an "S+".

If there is a dispute as to the judgement that has been made in applying a clause of the second type, it is generally understood that the employee affected may file a grievance in accord with the contract's provisions for grieving. This ensures that the lay off clause is not applied in a capricious or arbitrary way.

Several agreements include clauses that allow grievances arising in the course of lay offs to be initiated at an advanced stage of the grievance process. One clause states, for example that:

Grievances concerning lay offs due to reduction in the working force shall be initiated at Step 4 of the grievance procedure.

Step 4 of the grievance procedure in this particular contract is the submission of the grievance to the business administrator in the board, who is required to render a decision within five working days. If the decision is not found satisfactory by the grieving party, then the grievance moves to Step 5, which is arbitration. Thus, steps involving the union steward, the immediate supervisor, and department head are all passed over.

In another contract, a grievance arising out of a lay off due to reduction in the working force enters Step 3 of the grievance process, which involves submission of the grievance to a joint meeting between the Union Committee and a Board Committee. The latter includes the director of education, the superintendents of plant and of business and finance, and two trustees. Thereafter, if the grievance remains unresolved, it may go to arbitration.

While we did not investigate the motivation behind the inclusion of these special grievance procedures in the contracts, we would speculate that a major motivation was the desire for quick decisions. Grievances can be very time consuming, and without prompt decisions, the grievances could remain unresolved on the date lay offs occur. Neither the board nor the union would appear to gain from this type of delay.

Order of Recall

Surprisingly, the order of recall of staff on lay off is not necessarily the simple inverse of the order of lay off. Two contracts which had clauses requiring that lay offs be in the reverse order of seniority had clauses dealing with recall that placed additional conditions on the process. For example:

Both parties recognize that job security should normally increase in proportion to length of service. Therefore, in the event of a lay-off, employees shall be laid off in reverse order of full-time or part-time seniority. Employees of lay-off shall be recalled in order of seniority provided they are qualified to do the work.

To some extent, this combination of clauses would seem to provide somewhat greater protection to those still on staff than to those on lay off since in laying an individual off only seniority would be considered, whereas both seniority and qualifications would be considered when recalls were made.

Bumping Procedures on Lay Off

When the reduction in staff positions in an organization includes positions occupied by senior staff, an occurrence particularly common when jobs are arrayed in a hierarchy, the reassignment or lay off of the incumbents presents a particularly difficult problem. Ought these senior staff be laid off, or should they displace or "bump" other individuals with lesser seniority? If a senior staff member is laid off, the total impact of the reduction in force falls on this one individual; if bumping occurs, it is spread across a large number. Yet in both cases, the loss to the bargaining unit is the same, so it is difficult to say which option is preferable. Perhaps it is for this reason that a number of different and opposing clauses are found in various contracts.

Seven of the 13 contracts studied have clauses that deal with the issue of bumping on lay off. Of these seven, two specifically deny bumping rights, while five guarantee them. The complexity of the

arrangement in Board #1's agreement with its caretaking staff, an agreement that recognizes both Board and Code Seniority, is of particular interest:

In the event of a layoff or recall to work following layoff in any Code, then the Code Seniority shall be the governing factor subject to the following:

- (a) A senior head caretaker can displace a junior head caretaker or an assistant caretaker who is junior in service and for the purpose of the subclause, Board Seniority applies.
- (b) A junior employee who possesses an Engineer's Certificate shall not be laid off, if the work remaining to be done requires an employee with an Engineer's Certificate and there are not a sufficient number of senior employees with Engineer's Certificates to perform that work. In such a case, the most junior employee or employees who do not possess Engineer's Certificates shall be laid off.

In essence, this clause allows a head caretaker with a given level of seniority to bump another caretaker if the latter has less seniority and does not hold an Engineer's Certificate. This clause does not specify which employee with less seniority is to be displaced, so that either one or many other employees might be affected. If the clause were applied in full, then no head caretaker would be laid off; the burden of being laid off would ultimately fall on assistant caretakers without Engineer's Certificates.

The bumping policy in another board is even more general in its application:

In the event a school or building is phased out by the Board the following procedure shall apply: Seniority rights prevail.

Every effort will be made by the parties to relocate displaced employees in acceptable positions. Failing this, all positions shall be declared vacant and shall be posted.

Unlike the first clause, which would not give bumping rights to assistant caretakers, this clause gives bumping rights to all employees except the most junior. If this clause were in fact applied, one could expect that each employee would be bumped downward one step since seniority would be the guiding principle in the reassignment of staff. In practice, we would hazard the guess that this clause acts as a deterrent to the elimination of positions and to the assignment of positions to displaced staff members in an arbitrary manner.

A third contract's bumping clause seems to offer still more protection to senior employees than either of the two preceding examples:

An employee with seniority in the bargaining unit whose job is permanently affected by way of being discontinued or changed in a manner that will reduce the employee's rate of pay or regular hours of work may if he chooses, displace an employee with lesser seniority in any classification covered by this agreement provided he has the necessary qualifications. Other employees who are affected by such a move shall be allowed to exercise their seniority rights in the same manner. Any employee displaced will be notified by the Personnel Manager with information as to his rights under this clause. In the event an employee is unable to find a suitable position due to being displaced he shall be considered laid off.

Under this clause, a head custodian of a school whose decline in enrolment has caused a decrease in the classification of the school, and hence the caretaker's rate of pay, could displace a less senior custodian in another school where enrolments had not declined.

In contrast to the extensive bumping rights that are assured in the preceding three clauses, no such rights are allotted under the following clause, which is taken from the contract for secretarial and clerical staff in the board from which the second example above was selected.

It is agreed and understood that seniority shall not be used to displace employees from present positions, but shall be recognized by the Board in job posting and lay off situations.

Hence, if a school in this board were closed the displaced caretakers would have the right to bump those in other schools with less seniority, but the secretarial staff would be laid off unless vacancies occurred elsewhere in the system. However, the bumping clause for secretaries and clerks does imply that if it was necessary to eliminate some positions, those filled by junior staff would be eliminated first, if possible, in order to avoid the lay off of senior staff.

In the eight boards in the sample which will actually have shortages of staff in the coming ten years, it would appear that the necessity to bump staff can be avoided if careful planning is undertaken and boards and unions work together. In the boards that expect surplus staff, the problems can be minimized if long term plans are made so that employees know well in advance when their turns for lay off are likely to come. In the meantime, they can be assisted in looking for other positions and retraining. Or, perhaps inter-board agreements can be negotiated so that

displaced individuals can move to positions in boards which have a need for new members. One of the major difficulties in the latter approach may be the loss of seniority that individuals would incur in moving from a bargaining unit in one board to a bargaining unit in another. Given this situation, however, one would hope this problem could be resolved.

Bumping on Return from Transfer

Closely related to the issue of bumping rights in situations involving lay offs is that of bumping rights on return from a transfer to another position outside of a given bargaining unit. For this purpose, transfers fall into two categories -- voluntary and forced. Voluntary transfers are most commonly made when an individual applies for and is awarded a supervisory position outside the unit in question, although voluntary transfers may be made for other reasons as well.

Forced transfers occur when an individual is faced with the choice of lay off or transfer to another position in the board that is not in the same bargaining unit.

Of the seven agreements having clauses that addressed the issue of transfers outside of the bargaining unit, two allowed the displacement of less senior members of the bargaining unit as the result of the transfer of an individual back into the unit after having served outside the unit on a voluntary basis. A typical clause covering this situation reads as follows:

No employee shall be transferred to a position outside the bargaining unit without his consent. If an employee is transferred to a position outside the bargaining unit, he shall retain his seniority acquired at the date of leaving the Unit, but will not accumulate any further seniority. If such an employee later returns to the bargaining unit, he shall be placed in a job consistent with his seniority. Such return shall not result in the lay-off or bumping of an employee holding greater seniority.

We take the prohibition that no employee with greater seniority may be bumped as permitting the bumping of employees with less seniority.

The agreements that prohibit a returning transferee from bumping another member of the bargaining unit are quite similar, but lack the closing phrase of the preceding clause. For example, one agreement includes the following clause:

The selection and promotion of employees to positions outside the bargaining unit is not governed by the Agreement. In the event an employee accepts or has

accepted any such position he shall retain his seniority rights if such employee is later returned to a position within the bargaining unit, he shall be placed in a job consistent with his qualifications and seniority and shall be credited with the seniority which he has accumulated in such position provided, however, that no bargaining unit employee shall be displaced or laid off as a result of such placement.

An agreement with a clause such as this would certainly discourage employees from taking the risk of seeking supervisory positions outside the unit. For all practical purposes, leaving the unit voluntarily places an individual in the position of effectively resigning his or her position, though seniority rights would be preserved.

None of the agreements reviewed recognized the right of an employee who had been forced to transfer out of the unit in order to maintain employment to bump another member of the unit in order to return. This is natural, since the individual would not have transferred in the first place had there been a position open or had it been possible to bump another person in the unit.

Recall Rights During Forced Transfers

As we noted earlier, one board agreement recognized the right of an individual who had been forced to transfer in order to maintain employment with the board to be recalled to the unit if a vacancy occurred. The recall rights were quite generous, applying for 30 months from the time of transfer, though they could be invoked just once during an individual's employment with the board.

A clause of this type would appear to enhance the job security of the employee, while increasing the board's flexibility in staffing positions in various units.

Frequency of Seniority and Employment Lists

All contracts provided by the sample board included clauses requiring the boards to supply seniority lists on one or more occasions during the year. The most demanding was that in Board #11:

In January of each year, the Employer will provide to the Union a list of all employees in the bargaining unit showing names, classifications, and dates of hiring. Once a month during the year, the Employer shall provide the Union with an up-to-date list of hirings, resignations, firings, layoffs, and retirements.

The major purpose of these lists is no doubt simply to provide the union with a list of its members and to ensure each individual employee is aware of his or her seniority. The latter is important in preventing disputes on matters in which seniority is important, such as promotions, lay offs and vacations. At the same time, the monthly up-dates required in this clause also ensures that no vacancies are filled without the full knowledge of the bargaining unit, something that could occur if lists were infrequent.

Summary

Clauses designed to provide regulations governing the lay off and recall of staff can provide a framework for the orderly reduction of staff. They cannot save jobs, but they can indicate who in a bargaining unit will feel the impact of the reduction in working force. It may be a few, if there are no bumping rights and the person laid off is the person whose position has been eliminated. Or, it may be many, if bumping rights are used to spread the loss across all those in a bargaining unit with seniority less than that of the incumbent whose position has been eliminated. Clauses governing the bumping rights of employees who have taken voluntary transfers may affect the willingness of people to apply for positions outside of the bargaining unit. They would tend to decrease mobility of staff among different departments and units in the board. On the other hand, ensuring recall rights to those who are forced to transfer in order to remain employed might foster such exchange. To monitor these staff changes, all agreements require at least annual reports from the employer to the bargaining units on the unit's members and their seniority.

RIGHTS AND BENEFITS

How can an employee lose his or her seniority? And, on lay off, what rights and benefits does the employee retain? We have already considered, in an earlier section, the retention of seniority rights during lay off; in this section we consider the loss of these rights, and the loss of benefits granted in the contracts.

Loss of Seniority

Since seniority is a currency of high value to the employees, affecting as it does their job security and job opportunities, its loss could be devastating. All contracts have clauses outlining the conditions under which seniority can be lost. Board #11 has an unusually detailed clause:

Seniority rights of an employee may only be terminated for the following reasons: - if

- i) the employee resigns;
- ii) the employee is discharged and not reinstated through grievance or arbitration procedures;
- iii) the employee fails to return from leave of absence, unless such failure to return is proven to the satisfaction of the Employer to have been due to causes beyond the employee's control;
- iv) the employee is absent from work in excess of two (2) working days without sufficient cause and without notifying the Employer, unless such notice was not reasonably possible;
- v) The employee fails to report after a lay-off within fourteen (14) calendar days after having received notice of recall by registered mail to the last address of the employee which the Employer has on record, unless such failure is proven to the satisfaction of the Employer to be due to causes beyond the employee's control. An employee is responsible for advising the Employer in writing of his address from time to time while he is on lay-off, and non-receipt of the notice of recall due to failure on the employee's part to keep the Employer up to date on his address will not be deemed to be a cause beyond the employee's control for his failure to return to work pursuant to this paragraph;
- vi) The employee is laid off for a period of twelve (12) consecutive months;
- vii) The employee retires;
- viii) The employee is retired at the regular retirement age.

Being absent without leave or failing to respond to a recall notice are the two methods of losing seniority that could trap the careless or unwary employee. By invoking the first, the employer can terminate the employment of any staff member who is sufficiently undependable, and by invoking the second the employer can end all obligations to a former employee who does not respond with dispatch to a recall notice.

In the clause cited, the limits placed on the number of days one could be absent without leave is set at two and the limit on the number

of days in which a former employee has to respond to a recall notice is set at 14. In most boards, these limits are three and seven days, respectively. One board, however, has no minimum number of days for absence without leave; all absences require "a bona fide reason acceptable to the Board."

Retention of Benefits During Lay Off

Only two boards in the sample have clauses in their contracts with non-certificated staff that provide for the continuation of employee benefits during lay offs. Only one month's continuation is provided in one of these, but the other provides for the continuation of benefits up to one year:

The Employer agrees to continue the full coverage to the Hospital and Medical Plans for employees laid off for periods of less than one (1) year provided the employee repays his portion of the premium upon his return to work and provided the employee is not gainfully employed in a full-time position elsewhere. In the event of a long lay-off, employees so affected will be given the right to continue their coverage through direct payments of 100% premiums.

CONTRACTING OUT

Most of the services provided by maintenance, operations, and transportation personnel in school boards could be contracted out to private companies. This fact is perhaps a greater threat to the continued employment of many of the non-certificated staff in Ontario than the fact of declining enrolments. Quite aside from the financial stringencies brought about by the existence of fewer children, boards in Ontario have had to cut back in spending because revenue has not increased as rapidly as costs. As a result, some have turned to contract services which, as we have noted previously, are reportedly less expensive and of lesser quality.

One response to the threat has been the introduction of clauses in contracts which prevent boards from dismissing staff and replacing their services with outside contracts. Because this issue is of paramount importance, we quote all five articles in full.

Board #3's agreement with their clerical staff reads as follows:

The Board shall not contract out work that is normally performed by bargaining unit employees, except in emergency situations, if this would result in a lessening of regular or overtime hours for any employee

covered by this Agreement. However, if an employee covered by this Agreement refuses overtime, for that occasion the Board may have the work done by other means.

The article for Board #6 reads,

The Employer agrees that no employee on staff with two (2) or more years seniority shall be laid off or have his employment terminated as the result of any work now being performed by the Employer being sub-contracted, transferred, leased, assigned or conveyed in whole or in part to any other plant, person, company or non-unit employee.

The article for Board #7 is as follows:

It is agreed that for the term of this Agreement there shall be no restriction on contracting out by the Board of their work or services of a kind now performed by employees herein represented; provided, however, that no permanent employee of the Employer shall, as a result of such contracting out, thereby lose employment with the Board.

Board #11's agreement with its maintenance, operations, and transportation staff is more like that of Board #6.

The Employer agrees that no employee hired on or before May 6, 1977 who has two (2) years of seniority or more will be laid off or have his or her normal hours of work reduced as a result of the contracting out of part of the Employer's operations. Employees whose duties are affected by contracting out shall not suffer any loss of salary.

The Employer agrees that any furtherance of contracting out of work relative to the transportation of students, currently being performed by employees in the bargaining unit, shall only be as a result of normal attrition due to retirements, resignations or other terminations of employees.

The final agreement, that for Board #12, is the only agreement which specifically guarantees a specific number of positions for the bargaining unit.

While the Board reserves the right to contract out custodial services, this will not effect the employment of those members of Local . . . who are in the employ of [Board #12] on date of signing this Agreement. The Board agrees to maintain a Custodial Staff of at least twenty-three (23) employees. The Board further agrees that no permanent employee will be involuntarily relocated more than nine (9) miles from his residence or his normal reporting base as a direct result of "Contracting Out of Custodial Services."

The objective of preserving jobs comes across very clearly in the last four of these articles, while the first appears more concerned with the right to overtime.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

This study has been directed at answering four questions which were stated in the first chapter. They were as follows.

1. What are acceptable standards for the numbers of non-certificated staff employed by school boards of a given kind and size?
2. What will be the demand for non-certificated staff in the coming ten years, given that most school boards are becoming smaller?
3. What is the supply of non-certificated staff currently available in school boards, and how does this supply conform to future demand?
4. Given answers to the three questions above, what are the implications for the province, for school boards, and for individual employees?

We have tried to answer these questions in detail in the preceding chapters; we now provide a brief summary of these answers and consider them from the perspective of two organizations that represent non-certificated staff. We conclude with a set of recommendations that address some of the problems that have been identified.

CONCLUSIONS

Staffing Standards

Using a normative approach to the determination of standards, we have concluded that current staffing patterns in Ontario schools boards are reasonable. This conclusion was based upon the finding that the major changes in staffing patterns in the past eight years was a growing equalization of services among boards rather than an uncontrolled increase in the number of employees in all boards. Small county boards, northern district boards and separate school boards have been the major beneficiaries of

this equalization, while staff ratios have remained unchanged or declined slightly in other boards.

In terms of specifics, we identified the ranges from 25 to 37 non-certificated staff per 100 certificated staff and 1.3 to 2.0 non-certificated staff per 100 students as being acceptable. Ratios in county and separate school boards would probably be near the lower end of these ranges, while those in large urban and northern districts would probably be near the upper end. We expect that these ranges are sufficiently generous to accommodate fluctuations in ratios from year to year, even as enrolments decline.

Demand for Non-Certificated Staff

We have projected a decline in demand for non-certificated staff that is proportionate to the decline in enrolment. Though it can be argued that decline in demand lags behind a decline in enrolment because a board's fixed costs do not decrease as quickly as its enrolments do, we believe fiscal pressures on boards will eliminate this lag.

For Ontario as a whole, the number of non-certificated staff will decline from about 31,700 in 1976 to about 22,700 in 1986. In individual boards the decline may be as great as 30%, though in some boards enrolment and hence demand for non-certificated staff will increase.

Balance of Supply and Demand

Assuming that demand for non-certificated staff will fall as enrolments fall facilitated the analysis of the balance between supply and demand, where supply was defined in terms of only those non-certificated staff currently working in school boards minus those leaving through attrition. This analysis involved computation of projected non-certificated staff to student ratios for the next ten years. Any decline from the 1977 ratio meant that a shortage of staff existed and any increase above that ratio meant that there was a surplus.

Seven of the twelve sample boards investigated face a shortage of staff in the coming years and will be in a position to hire new staff, assuming they choose to maintain their current staff to student ratios. The remaining five boards will experience a surplus of staff, three after a brief period of shortage and two immediately. One of the latter will see its surplus decline after a few years as the decline in enrolment levels off. The other board will have a surplus of staff for the foreseeable future.

The possibility that some boards may turn to the contracting out of services in order to save money was identified as a major uncertainty affecting non-certificated employees. Much of maintenance, operations, transportation, and even psychological services could be contracted out. If this occurred, there would be an artificially created surplus of non-certificated employees who might then be laid off.

Implications

On a province-wide basis, the outlook for non-certificated staff is good, assuming the practice of contracting out for services does not become widespread. Overall, there will be a slight demand for new non-certificated staff. Any boards with surplus staff could avoid lay offs if inter-board transfers of staff could be arranged.

If individual boards do plan well, it appears lay off can, as a rule, be avoided. In some boards, the use of outside contracts for services for short periods of time when there is a shortage of internal staff may help to avoid lay offs in the future when attrition is not expected to be sufficient to reduce the numbers of employees as quickly as the numbers of students decline.

Most individual employees who are in bargaining units can give themselves adequate protection against lay offs by bargaining for appropriate clauses regarding the contracting out of services in their contracts. Those in boards where lay offs are likely might consider negotiating transfer rights and extra benefits during period of lay off. If, as predicted, the number of part-time employees increases due to the elimination of full-time positions as secretaries and custodians in small schools, then seeking full benefits for part-time employees, including pension rights, may be advisable.

The interests of a large number of non-certificated employees are well expressed by members of their representative organizations.

VIEWPOINTS

Interviews were conducted with representatives of two organizations which have province-wide responsibilities for two very different segments of the non-certificated staff in Ontario school boards. These organizations are the Canadian Union of Public Employees (CUPE) and the Ontario Psychological Association (OPA). The interviews focused upon a number of their

concerns. The following statement and interpretation of these concerns, it should be noted, are those of the principal investigator, and not those of the organizations in question.

Canadian Union of Public Employees

CUPE appears to accept the fact that opportunities for employment for non-certificated staff are going to decline as a result of the decline in enrolments. However, they do not want to see these opportunities decline more rapidly than does enrolment, a possibility that could occur should boards decide to reduce staffing ratios below current levels and to contract out for services on a large scale.

CUPE's interests, or more properly the interests of non-certificated staff members in school boards, are obviously not served by reduction in ratios or contracting out for services. This accounts for the inclusion of clauses in contracts which restrict the right of boards to contract out and which guarantee a certain number of positions. It is not clear what the relative benefits are for the educational system and society as a whole as far as contracting out is concerned. To determine this, the following questions would have to be answered:

- How much is saved in dollar terms by contracting out for services?
- What are the hidden costs to the board of contracted services in terms of less effective services?
- What is lost to a school, the children, and the faculty, if regular caretakers, bus drivers, etc. are replaced by outside staff?
- Are funds saved by a board in contracting out for services displaced onto some other government agency in the form of increased unemployment payments, etc.?

The third question is particularly interesting since there is little research on the role of caretakers, yet there is much folklore among teachers on the importance of the caretaker in the school's operation. A draft prepared by CUPE in opposition to a proposal to twin schools for caretaking services touches upon this matter:

During the course of a day, many routine functions are performed by the caretaker in a school, functions that cannot be left for half a day. Hallways and stairways must be kept clean and unobstructed. Snow cannot be

allowed to melt and lie on the floor for hours but must be cleaned up immediately, particularly in schools with broadloom. Washrooms must be continuously checked to ensure that toilets are flushed and dispensers full of towels and toilet paper. If not, the washrooms smell and we have a situation such as in one school where the caretaker has already been called back seven times to fill dispensers that were full when he left. Because the caretaker is continually on the move about the school, he often meets up with strangers in the building. If the person has business in the school the caretaker will escort him to the office and if the person should not be in the school then the caretaker would ask him to leave.

[Caretakers take] pride in [their] work . . . [which is] reflected in the condition of your schools. A caretaker never refers to his place of employment as being "the school where I work" but rather it is "my school."

Anyone who has taught in a school is aware of the validity of these arguments. Caretakers, school secretaries, and often school bus drivers form a part of the school community. Often, these non-certificated staff members are the school's strongest link to the local community. Their backgrounds are often more similar to those of the students than are those of the teachers, and they can be called upon to interpret the school to the community. The expedient answer to financial difficulties may be to contract out services, but it appears doubtful to us that the long-term costs are being fully considered.

A second concern facing CUPE is the number of small bargaining units that have been formed. That for Board #12, recall, dealt with just 23 custodians. One solution would be province-wide bargaining as has been adopted in the Colleges of Applied Arts and Technology for negotiating the salaries of their teaching staffs. Such an approach would have considerable amounts of administrative time at all levels, and would facilitate inter-board transfers. On the other hand, it would remove fiscal control from the local boards which serve as a decentralized system of fiscal control that adjusts the price paid for services to the local costs and that determines the quality of service demanded by local tastes.

A third issue confronting many CUPE locals is the aging of their staff as the hiring of new employees declines. Not all types of work require younger men and women, but many maintenance and caretaking activities do. The problems raised by aging are recognized in many contracts, which have clauses such as the following:

Any employee covered by this Agreement who has given good and faithful service to the Employer and who through advancing years or temporary disablement is

unable to perform his regular duties shall be given the preference of any light work available at the salary payable at the time for the position to which he is assigned.

That the staff would age if no new hiring occurs is obvious. However, the majority of individuals who might have to change to lighter work would probably be in the 55-65 year age group. To see how the age distribution in this range will change, we computed the percentage of all non-certificated employees in the twelve sample boards between 55 and 65 years of age. In the total sample, the percentage ranged from a low of 21.9% in 1978 to a high of 27.5% in 1987. There was considerable variation among boards, however. In Board #1, the percentages ranged from 25.5% in 1978 to 34.0% in 1987, while in Board #8 the change was from 12.5% to 16.8%. As a rule, then, CUPE's concern for an aging workforce appears valid, though not for all boards.

A final concern which was not raised in interviews with CUPE officials but which we identified in our work was a likely increase in the numbers of part-time positions in schools that are becoming too small to justify full-time caretakers and secretaries. A large percentage of these individuals may not be entitled to benefits such as pensions. Indeed, the lack of membership in the Ontario Municipal Employees' Retirement system was identified earlier. What does the future hold in store for these employees? For the part-time secretarial staff, it could be bleak, as suggested by a recent study called *Women and Aging: A Report on the Status of Women*, released by the Federal Advisory Council on the Status of Women (*Globe and Mail*, April 6, 1978):

The older divorced, separated or widowed woman faces disadvantages in the labor market

They are less prepared for their retirement years than men, while society stereotypes them as either "a dear old soul" or "that old woman."

Most older married women are financially vulnerable, and if they're not 65 yet, they face the prospect that their spouse's allowance will be discontinued if the pensioner-husband dies before they reach 65.

"Their poverty is not the result of an accident. . . . Women are poor in old age because most of them have devoted their lives without pay to their husbands and families and were led to believe that if anything happened, they would be taken care of."

As well, the report says, "Socialized to believe that they need little or no education and training, women end up working for low pay at subservient jobs that do not give access to pensions."

It would appear that there are a large number of women working in part-time positions in school boards who may find that they will experience this type of poverty in their old age for the very reasons that are described. It may be that boards and unions would take the interests of these and other part-time workers into account in as full a manner as they do those of full-time workers.

Ontario Psychological Association

There are two bodies that are central to the psychological profession in Ontario, the Ontario Psychological Association and the Ontario Board of Examiners in Psychology. The first is the psychologists' professional association, and the second is a board created under the Psychologists Registration Act of Ontario. The latter administers examinations which are required for a psychologist to become a "registered psychologist" in Ontario. It also regulates the practice of registered psychologists.

One major area of concern expressed by various registered psychologists with whom we spoke was the fear that economic stringencies brought about by declining enrolments and grants would threaten their employment in school boards.

As background for the discussion of this issue, the results of a survey conducted by the Ontario Board of Examiners in Psychology provides a helpful profile of the positions of registered psychologists in Ontario.

In April 1977 the Board sent questionnaires to the 742 psychologists then registered, about 710 of whom responded. The questionnaire contained questions about their major areas of interest, the types of practice they were involved in, and their professional orientations.

Sixty percent of the respondents indicated that their primary interest was clinical, three percent developmental, thirteen percent educational, seven percent industrial, and two percent social. In their work, twelve percent worked primarily with children, forty percent with adults, and forty-five percent with both. Of those working in an educational setting, 109, or sixteen percent, of all registered psychologists, worked in elementary or secondary education, while 262, or twenty-three percent, worked in a post-secondary environment.

One of the reasons that many psychologists working in school systems may be concerned about their positions is the fact that their lack of teaching certificates leaves them out of the educational fold. For example, they see themselves as having an important role in maintaining professional

standards in areas such as the diagnostic and treatment of problems of children who require special education. Yet, they are not counted in the formula used by the Ministry of Education to determine a school board's weighting factor for special education, even though special education teachers and lay assistants are.

We are not able to assess the role that registered psychologists play in school boards. We do not know if they are more or less effective in diagnosing and treating children with learning and behavioural difficulties than are specially trained teachers who are not registered psychologists. We would venture that individuals with both qualifications would be most effective.

We do believe that it would be an error to assume that the number of psychological problems children face will decline with declining enrolments. There are several trends over the last ten or fifteen years that make us doubt this. There is evidence, for example, that the higher retention rates in secondary schools have meant the retention of more students with severe psychological problems, students that in previous decades would have left the school system. Also, there is evidence that the rising suicide rate among adolescents and young adults reflects greater problems among youth in developing successful lives in society. School boards, in considering their own system's needs, should provide services that address these problems. Whether the persons employed to do this are primarily the members of one profession rather than another is perhaps a secondary issue.

RECOMMENDATIONS

In view of the findings of this study and the views expressed by individuals in school boards and in the organizations which speak for non-certificated staff, we have derived three sets of recommendations. These recommendations are, for the most part, substantial and are meant to stimulate debate on the issues we have identified. The three categories dealt with are legislative grants, agreements between school boards and staff unions or associations, and future studies.

Legislative Grants

Without doubt, the Ontario system of provincial grants to education has worked extremely well in recent years. It has been particularly effective

at equalizing the levels of service provided in different boards. Nevertheless, there are changes that could be made in the system that would be of assistance in resolving some of the problems identified in this study. We have four specific recommendations. The first deals with the time lag that occurs between the time a student leaves a school system and the time the system can reduce expenditures proportionately, the second with the employment of registered psychologists in school boards, the third with inequalities in the tax bases of different boards, and the fourth with the lack of long term financial planning for elementary and secondary education in Ontario.

Time Lag

There is very good evidence that there is a time lag between the time enrolment drops in a board and the time the board can cut its expenditure proportionately. To ease this transition, we recommend

that the weighting factor for declining enrolments previously used in Ontario be reintroduced.

Registered Psychologists

The current grant weighting factor for special education encourages school boards to replace registered psychologists with special education teachers and lay assistants, because the latter two groups are counted in the weighting factor. We consider such steering effects that reward a board for staffing a program in one way rather than another to be inappropriate. Grant formulae should be neutral, unless the intention is for one program to be stimulated. Therefore, we recommend

that registered psychologists assigned in whole or in part to work in special education programs be counted in the weighting factor for special education in proportion to their involvement in the programs.

Long Term Financial Commitment

Many problems of adjustment to the fact of declining enrolments are complicated by the uncertainty from one year to the next about the amount of funds a board will receive from the provincial government. Even minor tinkering with the grant system can result in fluctuations of hundreds of thousands of dollars. Therefore, we recommend

a) *that the government commit itself to announcing grants by November 31st, and*

- b) that changes in the grant allocation formula be announced one year in advance, so that boards can plan for their financial impact.

Recapture of Property Tax

Boards with low assessed valuation are at a tremendous disadvantage in comparison to wealthier boards if they wish to spend over the grant ceiling for recognized ordinary expenditure. And, if they have declining enrolments, they suffer from the fact that any savings that occur because of the decline accrue to the province as a whole rather than to them. Therefore, we recommend

- a) that a proportion of the revenue generated by boards with greater than average wealth for the purpose of spending over the grant ceilings be recaptured by the province for allocation to boards with less than average wealth that also wish to spend over the ceilings, and
- b) that boards with less than average wealth that are experiencing declining enrolments have their per pupil assessed valuation lagged for two years for grant purposes so that they can benefit financially from the decline in enrolments.

Collective Agreements

For the most part, issues raised in the negotiation of contracts should be settled by the bargaining process. But the arena in which bargaining takes place is determined by provincial legislation and regulation. We were struck by two characteristics exhibited by a number of the contracts examined which seem to relate to the framework within which the negotiations took place. First, many of the agreements involved extremely small bargaining units, and second, there were often several bargaining units for each board.

Too many small bargaining units clearly creates a heavy administrative load on the boards, on the units, and on CUPE. Within the same board, a number of bargaining units may hinder intra-board transfers that are necessary in order to ensure continued employment for all current staff. We cannot expect attrition to be evenly distributed across all units any more than we could expect it to be evenly distributed across all boards.

Therefore, we recommend

- a) that agreements with non-certificated staff be negotiated on a regional basis, where the regions are the six defined by the Ministry of Education, or
- b) that there be two bargaining units in each board, one for secretarial and clerical staff, lay assistants, attendance counselors, audio-visual technicians, and psychologists, and one for maintenance, operations, transportation, and cafeteria personnel, except in the five defined cities and boards enrolling fewer than 2,500 students. In the first case, there shall be no limit to the number of bargaining units; in the second, there should be a single bargaining unit.

We would also urge that part-time employees be assured the same pension opportunities as full-time employees, but consider such a recommendation to be a matter for negotiation rather than regulation or legislation.

Future Studies

All of the preceding recommendations have to be studied in detail to ascertain whether the evidence at hand is sufficiently valid to justify such action. But in addition to this, there are several other matters that should be investigated further, one dealing with the role of caretakers and psychologists, and the other with the staffing patterns used in secondary schools.

Role Studies

In order to determine the loss that would be incurred should caretaking and psychological services be contracted out, it is important to discover all aspects of the social roles played by these individuals in our schools.

We recommend

that several case studies be undertaken in order to determine these roles, with special emphasis being placed on their informal contributions to the educational system.

Secondary School Staffing

There has not been, to date, a detailed study of the staffing and costs associated with the operation of secondary schools that is comparable to that on elementary schools done by Rideout (1977). Therefore we recommend

that a study be undertaken on the costs of operating secondary schools of various types, and that these results be compared with those for elementary schools. We also recommend that the findings from these studies be related to the allocation formulae used to allocate non-certificated staff to schools that are reported in this study.

Closing Remarks

In the public eye, the educational system consists of the teacher and the principal. They often forget that the work these individuals do would not be possible without the strong support services provided by the school's non-certificated staff. It would be unfortunate if the contribution these individuals make is forgotten, and society forces them to bear a disproportionate share of the difficulties caused by declining enrolments.

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APPENDICES

APPENDIX A

June Board Report for 1977 - Directions

PAGE TYPE 1SECTION A - IDENTIFICATION

These data are used to update Ministry Records, Mailing Lists, the Directory of Education, and the Directory of School Boards.

Check the preprinting for accuracy, making changes where applicable.

Line 007 - Enter the name and degrees of the Secretary only if different from the Director or the Senior Business official.

Line 009 - Update the Board Auditor's Municipal Licence No.

SECTION B - TECHNICAL TEACHERS AT THE SECONDARY LEVEL

Statistics gathered here are used in determining the grant weighting factors for high-cost classes as well as indicating the distribution of technical teachers using English and French.

Do not include supervisory officers, co-ordinators, consultants or other personnel who are not in regular contact with students.

If a teacher has other teaching duties, only that portion of his or her time teaching technical courses should be converted to full-time equivalents. Teachers teaching both technical and occupational courses should be pro-rated between this section and section M, page type 8.

A technical course is defined as a shop-oriented course with a low pupil-teacher ratio for other than Occupational Education students. It does not include Marketing and Merchandising courses, Home Economics or Industrial Arts or Business Education courses such as Typing and Shorthand.

SECTION C - PERSONNEL ATTACHED TO BOARD AND SCHOOLS

The purpose of this section is to determine the number of personnel employed by the board as of April 30, 1977.

Report all personnel on the board's payroll and budgeted to the day school program. Exclude all personnel whose remuneration is in the form of fees or contractual services, and personnel related to courses that are outside the day school program such as driver training, adult education, evening and summer school courses.

The number of personnel is to be given in full-time equivalents to one decimal place. Full-time equivalents are to be determined, in the case of teaching personnel, by using 25 or more instructional hours as a 5-day week and for all other personnel, by using 35 or more hours as a 5-day week. A person should never exceed the full-time equivalent of 1.0.

Supervisory Officers

Include Directors, Superintendents, etc. appointed under the provisions of sections 244, 245, 246, and 248 of the Education Act, 1974 and Ontario Regulation 140/75.

Consultant Staff

Include consultants, co-ordinators and other qualified teachers employed in a similar capacity.

Principals, Vice-Principals and Teachers

Enter teachers on assignments not regularly scheduled in specific schools in line 003. In the case of teachers spending part of their time in central office and part in the schools, report the portion of their time that is regularly scheduled in specific schools in line 004, and the remainder in line 003. Supply teachers hired on a regular teaching contract for the school year should be included on lines 003 or 004 as the case may be.

Other Professional Staff

Include personnel with professional qualifications providing educational services to the students. Do not include personnel hired on a teaching contract (they are to be reported in lines 002, 003 or 004).

Report the personnel under the category that most closely fits the groupings provided. For example, psychologists, psychometricians, and psychometrists should be reported under "psychological", and speech therapists and speech pathologists should be reported under "speech".

Para-professionals

Report the number of para-professionals attached to schools and central office. Do not include personnel not paid by the board (such as volunteer teacher-aides). Include paid teacher-aides working in Special Education. An Education Resource Technician assists teaching or counselling staff in preparation and cataloguing of teaching materials.

Clerical and Secretarial

Report office support staff such as clerks, secretaries, keypunch operators, etc. Include clerical and secretarial staff providing office assistance to the teaching and education service functions.

Other Staff on the Board's Payroll

Include all supervisory, administrative, technical and specialized staff not reported in sub-sections 1 to 6. Report the personnel under the category that most closely fits their area of major responsibility. For example, administrators with responsibility in several areas such as instruction, plant operation and transportation may be reported 100% under "Business Administration" rather than according to the portion of their time spent in each area. Reference may be made to the Uniform Code of Accounts.

Do not include personnel whose remuneration is in the form of fees or contractual services. For example, do not include bus drivers whose services are contracted from other agencies.



WORKSHEET

Distribution: Board - Retain Green Copy
- Forward remainder of set to Regional Director

Appendix A

PAGE TYPE 1

A. IDENTIFICATION (Please complete or correct identification data in the space directly below computer printout)

001	BOARD	
002	MAILING ADDRESS - INCLUDING POSTAL CODE	
003	ADDRESS - ACTUAL LOCATION (where different from mailing address)	004 TELEPHONE NO. (Include Area Code)
005	BOARD CHAIRMAN/DEGREES	
006	DIRECTOR, TITLE/DEGREES	
007	SECRETARY OF BOARD/DEGREES (if other than the Director)	
008	SENIOR BUSINESS OFFICIAL, TITLE/DEGREES	
009	BOARD AUDITOR Name Address	MUNICIPAL LICENCE NO.

B. TECHNICAL TEACHERS AT THE SECONDARY LEVEL

(Full-time equivalent as of April 30, 1977)

001	Teachers Teaching Technical Courses (shop oriented)	Full-Time Equivalent	
		Eng.	Fr.
		0	0

C. PERSONNEL ATTACHED TO BOARD AND SCHOOLS

Full-time equivalent as of April 30, 1977.

Budgeted to the Day School Program.

	Elementary		Secondary	
	English	French	English	French
001 Supervisory Officers	0	0	0	0
002 Consultant Staff	0	0	0	0
PRINCIPALS, VICE-PRINCIPALS AND TEACHERS (certified and not included above)				
003 Attached to central office	0	0	0	0
004 Attached to schools	0	0	0	0
OTHER PROFESSIONAL STAFF (non-teaching) Providing Educational Services				
005 Psychological	0	0	0	0
006 Psychiatric	0	0	0	0
007 Speech	0	0	0	0
008 Social Work	0	0	0	0
009 Attendance Counselling	0	0	0	0
010 Library	0	0	0	0
011 Guidance	0	0	0	0
012 Other (specify)	0	0	0	0
013				
PARA-PROFESSIONALS				
014 Paid teacher-aides	0	0	0	0
015 Audio-visual technicians	0	0	0	0
016 Laboratory technicians	0	0	0	0
017 Education Resource technicians	0	0	0	0
018 Other (specify)	0	0	0	0
CLERICAL & SECRETARIAL				
019 Attached to central office	0	0	0	0
020 Attached to schools	0	0	0	0
OTHER STAFF ON BOARD'S PAYROLL (not included above)				
021 Business Administration & Computer Services	0	0	0	0
022 Public Information	0	0	0	0
023 Research	0	0	0	0
024 Plant Operation & Maintenance	0	0	0	0
025 Food Services	0	0	0	0
026 Pupil Transportation	0	0	0	0
027 Other (all employees not reported above)	0	0	0	0

IT IS HEREBY CERTIFIED THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF ALL INFORMATION SHOWN IN THIS REPORT IS CORRECT

DATE _____ CHIEF EXECUTIVE OFFICER'S SIGNATURE _____

DATE _____ REGIONAL DIRECTOR'S SIGNATURE _____



APPENDIX B

School Board Enrolments, 1969 to 1986

BOARD _____

ENROLMENT DATA 1969 TO 1986

Directions: Please record the enrolment data for your board as of September 30 for each of the following years, as well as projections for the next ten years if these have been developed for your board. Enrolment given should be that for all students in board schools.

YEAR	PUBLIC	SECONDARY	TOTAL
1969			
1970			
1971			
1972			
1973			
1974			
1975			
1976			
1977			
1978			
1979			
1980			
1981			
1982			
1983			
1984			
1985			
1986			

[illegible]

NO.	OF SCHOOLS	198	
NO.	OF FRENCH SCHOOLS		4
NO.	OF BILINGUAL SCHOOLS		0

YEAR	ENROLLMENT	CHANGE	PERCENT CHANGE
1959	101599.		
1970	104361.	2762.	2.71853
1971	103951.	-410.	-0.39287
1972	106169.	2218.	2.13370
1973	103659.	-2510.	-2.36415
1974	101177.	-2482.	-2.39439
1975	99914.	-1263.	-1.24831
1976	96378.	-3536.	-3.53904
1977	92238.	-4140.	-4.29553
1978	88063.	-4175.	-4.52633
1979	83552.	-4511.	-5.12247
1980	78698.	-4854.	-5.80955
1981	74013.	-4685.	-5.95114
1982	69878.	-4135.	-5.58585
1983	66362.	-3516.	-5.03163
1984	63642.	-2720.	-4.09873
1985	61512.	-2130.	-3.34685
1986	59598.	-1914.	-3.11159
AVE.	RATE OF CHANGE OVER LAST 16 YEARS		-3.417998

BOARD 2-F

17

NO. OF INTERVALS

100.

SIZE OF INTERVALS

RANGE 6700.

ENROLMENT BY YEAR

NO. OF SCHOOLS 54
 NO. OF FRENCH SCHOOLS 0
 NO. OF BILINGUAL SCHOOLS 0

		YEAR	ENROLMENT	CHANGE	PERCENT CHANGE
24100.		1959	23955.		
		1970	23971.	16.	0.06679
23700.		1971	24000.	29.	0.12093
		1972	23722.	-278.	-1.15833
23300.		1973	22997.	-725.	-3.05623
		1974	22809.	-188.	-0.81750
22900.		1975	22545.	-264.	-1.15744
		1976	22490.	-55.	-0.24395
22500.		1977	21861.	-629.	-2.79580
		1978	21055.	-806.	-3.68693
22100.		1979	20279.	-776.	-3.68559
		1980	19693.	-586.	-2.88969
21700.		1981	19109.	-584.	-2.96552
		1982	18502.	-607.	-3.17651
21300.		1983	18190.	-312.	-1.68530
		1984	17850.	-340.	-1.86916
20900.		1985	17350.	-500.	-2.80112
		1986	17300.	-50.	-0.28813
20500.		AVE. RATE OF CHANGE OVER LAST 15 YEARS			
20100.					
19700.					
19300.					
18900.					
18500.					
18100.					
17700.					
17300.					

-2.15195%

69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86.

| RANGE | 3333. | SIZE OF INTERVALS | 200. | NJ. OF INTERVALS | 17 | BOARD 3-E |
|---------|-------|-------------------|------|------------------|----|-----------|
| 11061. | * | * | | | | |
| 12661. | * | * | | | | |
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| RANGE | 1521. | SIZE OF INTERVALS | 100. | NO. OF INTERVALS | 16 | BOARD 3-S |
|-------|-------|-------------------|------|------------------|----|----------------------------|
| | | | | | | NO. OF SCHOOLS 7 |
| | | | | | | NO. OF FRENCH SCHOOLS 0 |
| | | | | | | NO. OF BILINGUAL SCHOOLS 0 |
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RANGE 6661. SIZE OF INTERVALS 100. NO. OF INTERVALS 17 BOARD 4-E

ENROLMENT BY YEAR

NO. OF SCHOOLS 44
NO. OF FRENCH SCHOOLS 0
NO. OF BILINGUAL SCHOOLS 0

| | 1643. | 1503. | 1563. | 1523. | 1483. | 1443. | 1403. | 1363. | 1323. | 1283. | 1243. | 1203. | 1163. | 1123. | 1083. | 1043. | 1003. | 963. | |
|--|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|-------|--|
| YEAR | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | |
| ENROLMENT | 15924. | 16300. | 16227. | 15706. | 14681. | 13921. | 13272. | 12773. | 11525. | 10981. | 10506. | 10189. | 9849. | 9796. | 9744. | 9648. | 9639. | 9747. | |
| CHANGE | 376. | -73. | -521. | -1025. | -760. | -649. | -499. | -1248. | -544. | -475. | -317. | -340. | -53. | -52. | -96. | -9. | 108. | | |
| PERCENT CHANGE | 2.36122 | -0.44785 | -3.21070 | -6.52517 | -5.17675 | -4.66202 | -3.75980 | -9.77061 | -4.72017 | -4.32565 | -3.01732 | -3.33693 | -0.53813 | -0.53083 | -0.98522 | -0.09328 | 1.12045 | | |
| AVE. RATE OF CHANGE OVER LAST 16 YEARS | -3.123813 | | | | | | | | | | | | | | | | | | |

69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86.

[illegible]

BOARD 4-F

15

NJ. OF INTERVALS

300.

SIZE OF INTERVALS

RANGE 11280.

NO. OF SCHOOLS 61
NO. OF FRENCH SCHOOLS 4
NO. OF BILINGUAL SCHOOLS 1

ENROLMENT BY YEAR

| | YEAR | ENROLMENT | CHANGE | PERCENT CHANGE |
|--------|------|------------------------------------|-----------|----------------|
| 31575. | 1959 | 28742. | | |
| 30875. | 1970 | 30283. | 1541. | 5.36149 |
| 30075. | 1971 | 30956. | 673. | 2.22237 |
| 29275. | 1972 | 30910. | -46. | -0.14860 |
| 28475. | 1973 | 29927. | -983. | -3.18020 |
| 27675. | 1974 | 29211. | -716. | -2.39249 |
| 26875. | 1975 | 28592. | -619. | -2.11905 |
| 26075. | 1976 | 27813. | -779. | -2.72454 |
| 25275. | 1977 | 26517. | -1296. | -4.65969 |
| 24475. | 1978 | 25379. | -1138. | -4.29159 |
| 23675. | 1979 | 24154. | -1225. | -4.82683 |
| 22875. | 1980 | 22949. | -1205. | -4.98882 |
| 22075. | 1981 | 21746. | -1203. | -5.24206 |
| 21275. | 1982 | 20840. | -906. | -4.16623 |
| 20475. | 1983 | 20142. | -698. | -3.34933 |
| 19675. | 1984 | 19778. | -364. | -1.80717 |
| | 1985 | 19676. | -102. | -0.51572 |
| | 1986 | 19698. | 22. | 0.11181 |
| | AVE. | RATE OF CHANGE OVER LAST 15 YEAR/S | -2.95337% | |

69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86.

[illegible]

[illegible]

ENROLMENT BY YEAR

| | |
|--------------------------|----|
| NO. OF SCHOOLS | 46 |
| NO. OF FRENCH SCHOOLS | 0 |
| NO. OF BILINGUAL SCHOOLS | 0 |

[illegible]

| YEAR | ENROLMENT | CHANGE | PERCENT CHANGE |
|------|-----------|--------|----------------|
| 1960 | 1,000 | | |
| 1961 | 1,050 | 50 | 5.0 |
| 1962 | 1,100 | 50 | 4.8 |
| 1963 | 1,150 | 50 | 4.5 |
| 1964 | 1,200 | 50 | 4.3 |
| 1965 | 1,250 | 50 | 4.2 |
| 1966 | 1,300 | 50 | 4.0 |
| 1967 | 1,350 | 50 | 3.8 |
| 1968 | 1,400 | 50 | 3.7 |
| 1969 | 1,450 | 50 | 3.6 |
| 1970 | 1,500 | 50 | 3.4 |
| 1971 | 1,550 | 50 | 3.3 |
| 1972 | 1,600 | 50 | 3.2 |
| 1973 | 1,650 | 50 | 3.1 |
| 1974 | 1,700 | 50 | 3.0 |
| 1975 | 1,750 | 50 | 2.9 |
| 1976 | 1,800 | 50 | 2.8 |
| 1977 | 1,850 | 50 | 2.7 |
| 1978 | 1,900 | 50 | 2.7 |
| 1979 | 1,950 | 50 | 2.6 |
| 1980 | 2,000 | 50 | 2.6 |
| 1981 | 2,050 | 50 | 2.5 |
| 1982 | 2,100 | 50 | 2.4 |
| 1983 | 2,150 | 50 | 2.4 |
| 1984 | 2,200 | 50 | 2.3 |
| 1985 | 2,250 | 50 | 2.3 |
| 1986 | 2,300 | 50 | 2.2 |
| 1987 | 2,350 | 50 | 2.2 |
| 1988 | 2,400 | 50 | 2.1 |
| 1989 | 2,450 | 50 | 2.1 |
| 1990 | 2,500 | 50 | 2.0 |
| 1991 | 2,550 | 50 | 2.0 |
| 1992 | 2,600 | 50 | 1.9 |
| 1993 | 2,650 | 50 | 1.9 |
| 1994 | 2,700 | 50 | 1.9 |
| 1995 | 2,750 | 50 | 1.8 |
| 1996 | 2,800 | 50 | 1.8 |
| 1997 | 2,850 | 50 | 1.8 |
| 1998 | 2,900 | 50 | 1.7 |
| 1999 | 2,950 | 50 | 1.7 |
| 2000 | 3,000 | 50 | 1.7 |
| 2001 | 3,050 | 50 | 1.7 |
| 2002 | 3,100 | 50 | 1.6 |
| 2003 | 3,150 | 50 | 1.6 |
| 2004 | 3,200 | 50 | 1.6 |
| 2005 | 3,250 | 50 | 1.6 |
| 2006 | 3,300 | 50 | 1.5 |
| 2007 | 3,350 | 50 | 1.5 |
| 2008 | 3,400 | 50 | 1.5 |
| 2009 | 3,450 | 50 | 1.5 |
| 2010 | 3,500 | 50 | 1.4 |
| 2011 | 3,550 | 50 | 1.4 |
| 2012 | 3,600 | 50 | 1.4 |
| 2013 | 3,650 | 50 | 1.4 |
| 2014 | 3,700 | 50 | 1.4 |
| 2015 | 3,750 | 50 | 1.3 |
| 2016 | 3,800 | 50 | 1.3 |
| 2017 | 3,850 | 50 | 1.3 |
| 2018 | 3,900 | 50 | 1.3 |
| 2019 | 3,950 | 50 | 1.3 |
| 2020 | 4,000 | 50 | 1.3 |

| | | | |
|------|--------|-------|----------|
| 1959 | 20051. | | |
| 1970 | 20135. | 84. | 3.41893 |
| 1971 | 20097. | -38. | -3.18873 |
| 1972 | 19624. | -473. | -2.35359 |
| 1973 | 19391. | -233. | -1.18732 |
| 1974 | 18991. | -400. | -2.06281 |
| 1975 | 18910. | -81. | -3.42652 |
| 1976 | 18843. | -67. | -3.35431 |
| 1977 | 18866. | 23. | 3.12205 |
| 1978 | 18649. | -217. | -1.15022 |
| 1979 | 18496. | -153. | -3.82342 |
| 1980 | 18238. | -258. | -1.39490 |
| 1981 | 18019. | -219. | -1.20079 |
| 1982 | 17865. | -154. | -3.83165 |
| 1983 | 17682. | -183. | -1.02435 |
| 1984 | 17641. | -41. | -3.23187 |
| 1985 | 17604. | -31. | -3.20971 |
| 1986 | 17655. | 51. | 3.28971 |

AVG. RATE OF CHANGE OVER LAST 16 YEAR/S -0.815538

BOARD 6-E

ENROLMENT BY YEAR

| | | |
|--------------------------|----|---|
| NO. OF SCHOOLS | 83 | |
| NO. OF FRENCH SCHOOLS | 4 | 0 |
| NO. OF BILINGUAL SCHOOLS | | 0 |

12

NO. OF INTERVALS

000.

SIZE OF INTERVALS

RAYCE 8931.

BOARD 5-F

17

NJ. OF INTERVALS

800.

SIZE OF INTERVALS

RANGE 13044.

ENROLMENT BY YEAR

NO. OF SCHOOLS 99
NO. OF FRENCH SCHOOLS 5
NO. OF BILINGUAL SCHOOLS 1

| YEAR | ENROLMENT | CHANGE | PERCENT CHANGE |
|---|-----------|--------|----------------|
| 1959 | 40047. | | |
| 1970 | 39910. | -137. | -0.34210 |
| 1971 | 39285. | -625. | -1.56602 |
| 1972 | 38388. | -897. | -2.28331 |
| 1973 | 37190. | -1198. | -3.12077 |
| 1974 | 36293. | -897. | -2.41194 |
| 1975 | 35844. | -449. | -1.23115 |
| 1976 | 34958. | -886. | -2.47182 |
| 1977 | 33511. | -1447. | -4.13925 |
| 1978 | 32540. | -971. | -2.89756 |
| 1979 | 31622. | -918. | -2.82114 |
| 1980 | 30749. | -873. | -2.76074 |
| 1981 | 30044. | -705. | -2.29275 |
| 1982 | 28956. | -1088. | -3.62136 |
| 1983 | 28172. | -784. | -2.70755 |
| 1984 | 27654. | -518. | -1.83871 |
| 1985 | 27288. | -366. | -1.32350 |
| 1986 | 27003. | -285. | -1.04442 |
| AVE. RATE OF CHANGE OVER LAST17YEAR/S -2.28706% | | | |

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69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86.

ENROLMENT BY YEAR

| | |
|--------------------------|----|
| NO. OF SCHOOLS | 11 |
| NO. OF FRENCH SCHOOLS | 0 |
| NO. OF BILINGUAL SCHOOLS | 0 |

[illegible]

| YEAR | ENROLMENT | CHANGE | PERCENT CHANGE |
|------|-----------|--------|----------------|
| 1959 | 2947. | | |
| 1970 | 2862. | -85. | -2.88329 |
| 1971 | 2726. | -136. | -4.75192 |
| 1972 | 2593. | -133. | -4.87894 |
| 1973 | 2398. | -195. | -7.52025 |
| 1974 | 2286. | -112. | -4.67055 |
| 1975 | 2195. | -91. | -3.98075 |
| 1976 | 2089. | -106. | -4.82315 |
| 1977 | 1986. | -103. | -4.93059 |
| 1978 | 1917. | -69. | -3.47432 |
| 1979 | 1868. | -49. | -2.55508 |
| 1980 | 1837. | -31. | -1.65953 |
| 1981 | 1829. | -8. | -0.43549 |
| 1982 | 1808. | -21. | -1.18417 |
| 1983 | 1805. | -3. | -0.15593 |
| 1984 | 1800. | -5. | -0.27701 |
| 1985 | 1800. | 0. | 0.00000 |
| 1986 | 1800. | 0. | 0.00000 |
| 1987 | 1800. | 0. | 0.00000 |
| 1988 | 1800. | 0. | 0.00000 |
| 1989 | 1800. | 0. | 0.00000 |
| 1990 | 1800. | 0. | 0.00000 |
| 1991 | 1800. | 0. | 0.00000 |
| 1992 | 1800. | 0. | 0.00000 |
| 1993 | 1800. | 0. | 0.00000 |
| 1994 | 1800. | 0. | 0.00000 |
| 1995 | 1800. | 0. | 0.00000 |
| 1996 | 1800. | 0. | 0.00000 |
| 1997 | 1800. | 0. | 0.00000 |
| 1998 | 1800. | 0. | 0.00000 |
| 1999 | 1800. | 0. | 0.00000 |
| 2000 | 1800. | 0. | 0.00000 |
| 2001 | 1800. | 0. | 0.00000 |
| 2002 | 1800. | 0. | 0.00000 |
| 2003 | 1800. | 0. | 0.00000 |
| 2004 | 1800. | 0. | 0.00000 |
| 2005 | 1800. | 0. | 0.00000 |
| 2006 | 1800. | 0. | 0.00000 |
| 2007 | 1800. | 0. | 0.00000 |
| 2008 | 1800. | 0. | 0.00000 |
| 2009 | 1800. | 0. | 0.00000 |
| 2010 | 1800. | 0. | 0.00000 |
| 2011 | 1800. | 0. | 0.00000 |
| 2012 | 1800. | 0. | 0.00000 |
| 2013 | 1800. | 0. | 0.00000 |
| 2014 | 1800. | 0. | 0.00000 |
| 2015 | 1800. | 0. | 0.00000 |
| 2016 | 1800. | 0. | 0.00000 |
| 2017 | 1800. | 0. | 0.00000 |
| 2018 | 1800. | 0. | 0.00000 |
| 2019 | 1800. | 0. | 0.00000 |
| 2020 | 1800. | 0. | 0.00000 |
| 2021 | 1800. | 0. | 0.00000 |
| 2022 | 1800. | 0. | 0.00000 |
| 2023 | 1800. | 0. | 0.00000 |
| 2024 | 1800. | 0. | 0.00000 |
| 2025 | 1800. | 0. | 0.00000 |
| 2026 | 1800. | 0. | 0.00000 |
| 2027 | 1800. | 0. | 0.00000 |
| 2028 | 1800. | 0. | 0.00000 |
| 2029 | 1800. | 0. | 0.00000 |
| 2030 | 1800. | 0. | 0.00000 |
| 2031 | 1800. | 0. | 0.00000 |
| 2032 | 1800. | 0. | 0.00000 |
| 2033 | 1800. | 0. | 0.00000 |
| 2034 | 1800. | 0. | 0.00000 |
| 2035 | 1800. | 0. | 0.00000 |
| 2036 | 1800. | 0. | 0.00000 |
| 2037 | 1800. | 0. | 0.00000 |
| 2038 | 1800. | 0. | 0.00000 |
| 2039 | 1800. | 0. | 0.00000 |
| 2040 | 1800. | 0. | 0.00000 |
| 2041 | 1800. | 0. | 0.00000 |
| 2042 | 1800. | 0. | 0.00000 |
| 2043 | 1800. | 0. | 0.00000 |
| 2044 | 1800. | 0. | 0.00000 |
| 2045 | 1800. | 0. | 0.00000 |
| 2046 | 1800. | 0. | 0.00000 |
| 2047 | 1800. | 0. | 0.00000 |
| 2048 | 1800. | 0. | 0.00000 |
| 2049 | 1800. | 0. | 0.00000 |
| 2050 | 1800. | 0. | 0.00000 |
| 2051 | 1800. | 0. | 0.00000 |
| 2052 | 1800. | 0. | 0.00000 |
| 2053 | 1800. | 0. | 0.00000 |
| 2054 | 1800. | 0. | 0.00000 |
| 2055 | 1800. | 0. | 0.00000 |
| 2056 | 1800. | 0. | 0.00000 |
| 2057 | 1800. | 0. | 0.00000 |
| 2058 | 1800. | 0. | 0.00000 |
| 2059 | 1800. | 0. | 0.00000 |
| 2060 | 1800. | 0. | 0.00000 |
| 2061 | 1800. | 0. | 0.00000 |
| 2062 | 1800. | 0. | 0.00000 |
| 2063 | 1800. | 0. | 0.00000 |
| 2064 | 1800. | 0. | 0.00000 |
| 2065 | 1800. | 0. | 0.00000 |
| 2066 | 1800. | 0. | 0.00000 |
| 2067 | 1800. | 0. | 0.00000 |
| 2068 | 1800. | 0. | 0.00000 |
| 2069 | 1800. | 0. | 0.00000 |
| 2070 | 1800. | 0. | 0.00000 |
| 2071 | 1800. | 0. | 0.00000 |
| 2072 | 1800. | 0. | 0.00000 |
| 2073 | 1800. | 0. | 0.00000 |
| 2074 | 1800. | 0. | 0.00000 |
| 2075 | 1800. | 0. | 0.00000 |
| 2076 | 1800. | 0. | 0.00000 |
| 2077 | 1800. | 0. | 0.00000 |
| 2078 | 1800. | 0. | 0.00000 |
| 2079 | 1800. | 0. | 0.00000 |
| 2080 | 1800. | 0. | 0.00000 |
| 2081 | 1800. | 0. | 0.00000 |
| 2082 | 1800. | 0. | 0.00000 |
| 2083 | 1800. | 0. | 0.00000 |
| 2084 | 1800. | 0. | 0.00000 |
| 2085 | 1800. | 0. | 0.00000 |
| 2086 | 1800. | 0. | 0.00000 |
| 2087 | 1800. | 0. | 0.00000 |
| 2088 | 1800. | 0. | 0.00000 |
| 2089 | 1800. | 0. | 0.00000 |
| 2090 | 1800. | 0. | 0.00000 |
| 2091 | 1800. | 0. | 0.00000 |
| 2092 | 1800. | 0. | 0.00000 |
| 2093 | 1800. | 0. | 0.00000 |
| 2094 | 1800. | 0. | 0.00000 |
| 2095 | 1800. | 0. | 0.00000 |
| 2096 | 1800. | 0. | 0.00000 |
| 2097 | 1800. | 0. | 0.00000 |
| 2098 | 1800. | 0. | 0.00000 |
| 2099 | 1800. | 0. | 0.00000 |
| 2100 | 1800. | 0. | 0.00000 |
| 2101 | 1800. | 0. | 0.00000 |
| 2102 | 1800. | 0. | 0.00000 |
| 2103 | 1800. | 0. | 0.00000 |
| 2104 | 1800. | 0. | 0.00000 |
| 2105 | 1800. | 0. | 0.00000 |
| 2106 | 1800. | 0. | 0.00000 |
| 2107 | 1800. | 0. | 0.00000 |
| 2108 | 1800. | 0. | 0.00000 |
| 2109 | 1800. | 0. | 0.00000 |
| 2110 | 1800. | 0. | 0.00000 |
| 2111 | 1800. | 0. | 0.00000 |
| 2112 | 1800. | 0. | 0.00000 |
| 2113 | 1800. | 0. | 0.00000 |
| 2114 | 1800. | 0. | 0.00000 |
| 2115 | 1800. | 0. | 0.00000 |
| 2116 | 1800. | 0. | 0.00000 |
| 2117 | 1800. | 0. | 0.00000 |
| 2118 | 1800. | 0. | 0.00000 |
| 2119 | 1800. | 0. | 0.00000 |
| 2120 | 1800. | 0. | 0.00000 |
| 2121 | 1800. | 0. | 0.00000 |
| 2122 | 1800. | 0. | 0.00000 |
| 2123 | 1800. | 0. | 0.00000 |
| 2124 | 1800. | 0. | 0.00000 |
| 2125 | 1800. | 0. | 0.00000 |
| 2126 | 1800. | 0. | 0.00000 |
| 2127 | 1800. | 0. | 0.00000 |
| 2128 | 1800. | 0. | 0.00000 |
| 2129 | 1800. | 0. | 0.00000 |
| 2130 | 1800. | 0. | 0.00000 |
| 2131 | 1800. | 0. | 0.00000 |
| 2132 | 1800. | 0. | 0.00000 |
| 2133 | 1800. | 0. | 0.00000 |
| 2134 | 1800. | 0. | 0.00000 |
| 2135 | 1800. | 0. | 0.00000 |
| 2136 | 1800. | 0. | 0.00000 |
| 2137 | 1800. | 0. | 0.00000 |
| 2138 | 1800. | 0. | 0.00000 |
| 2139 | 1800. | 0. | 0.00000 |
| 2140 | 1800. | 0. | 0.00000 |
| 2141 | 1800. | 0. | 0.00000 |
| 2142 | 1800. | 0. | 0.00000 |
| 2143 | 1800. | 0. | 0.00000 |
| 2144 | 1800. | 0. | 0.00000 |
| 2145 | 1800. | 0. | 0.00000 |
| 2146 | 1800. | 0. | 0.00000 |
| 2147 | 1800. | 0. | 0.00000 |
| 2148 | 1800. | 0. | 0.00000 |
| 2149 | 1800. | 0. | 0.00000 |
| 2150 | 1800. | 0. | 0.00000 |
| 2151 | 1800. | 0. | 0.00000 |
| 2152 | 1800. | 0. | 0.00000 |
| 2153 | 1800. | 0. | 0.00000 |
| 2154 | 1800. | 0. | 0.00000 |
| 2155 | 1800. | 0. | 0.00000 |
| 2156 | 1800. | 0. | 0.00000 |
| 2157 | 1800. | 0. | 0.00000 |
| 2158 | 1800. | 0. | 0.00000 |
| 2159 | 1800. | 0. | 0.00000 |
| 2160 | 1800. | 0. | 0.00000 |
| 2161 | 1800. | 0. | 0.00000 |
| 2162 | 1800. | 0. | 0.00000 |
| 2163 | 1800. | 0. | 0.00000 |
| 2164 | 1800. | 0. | 0.00000 |
| 2165 | 1800. | 0. | 0.00000 |
| 2166 | 1800. | 0. | 0.00000 |
| 2167 | 1800. | 0. | 0.00000 |
| 2168 | 1800. | 0. | 0.00000 |
| 2169 | 1800. | 0. | 0.00000 |
| 2170 | 1800. | 0. | 0.00000 |
| 2171 | 1800. | 0. | 0.00000 |
| 2172 | 1800. | 0. | 0.00000 |
| 2173 | 1800. | 0. | 0.00000 |
| 2174 | 1800. | 0. | 0.00000 |
| 2175 | 1800. | 0. | 0.00000 |
| 2176 | 1800. | 0. | 0.00000 |
| 2177 | 1800. | 0. | 0.00000 |
| 2178 | 1800. | 0. | 0.00000 |
| 2179 | 1800. | 0. | 0.00000 |
| 2180 | 1800. | 0. | 0.00000 |
| 2181 | 1800. | 0. | 0.00000 |
| 2182 | 1800. | 0. | 0.00000 |
| 2183 | 1800. | 0. | 0.00000 |
| 2184 | 1800. | 0. | 0.00000 |
| 2185 | 1800. | 0. | 0.00000 |
| 2186 | 1800. | 0. | 0.00000 |
| 2187 | 1800. | 0. | 0.00000 |
| 2188 | 1800. | 0. | 0.00000 |
| 2189 | 1800. | 0. | 0.00000 |
| 2190 | 1800. | 0. | 0.00000 |
| 2191 | 1800. | 0. | 0.00000 |
| 2192 | 1800. | 0. | 0.00000 |
| 2193 | 1800. | 0. | 0.00000 |
| 2194 | 1800. | 0. | 0.00000 |
| 2195 | 1800. | 0. | 0.00000 |
| 2196 | 1800. | 0. | 0.00000 |
| 2197 | 1800. | 0. | 0.00000 |
| 2198 | 1800. | 0. | 0.00000 |
| 2199 | 1800. | 0. | 0.00000 |
| 2200 | 1800. | 0. | 0.00000 |
| 2201 | 1800. | 0. | 0.00000 |
| 2202 | 1800. | 0. | 0.00000 |
| 2203 | 1800. | 0. | 0.00000 |
| 2204 | 1800. | 0. | 0.00000 |
| 2205 | 1800. | 0. | 0.00000 |
| 2206 | 1800. | 0. | 0.00000 |
| 2207 | 1800. | 0. | 0.00000 |
| 2208 | 1800. | 0. | 0.00000 |
| 2209 | 1800. | 0. | 0.00000 |
| 2210 | 1800. | 0. | 0.00000 |
| 2211 | 1800. | 0. | 0.00000 |
| 2212 | 1800. | 0. | 0.00000 |
| 2213 | 1800. | 0. | 0.00000 |
| 2214 | 1800. | 0. | 0.00000 |
| 2215 | 1800. | 0. | 0.00000 |
| 2216 | 1800. | 0. | 0.00000 |
| 2217 | 1800. | 0. | 0.00000 |
| 2218 | 1800. | 0. | 0.00000 |
| 2219 | 1800. | 0. | 0.00000 |
| 2220 | 1800. | 0. | 0.00000 |
| 2221 | 1800. | 0. | 0.00000 |
| 2222 | 1800. | 0. | 0.00000 |
| 2223 | 1800. | 0. | 0.00000 |
| 2224 | 1800. | 0. | 0.00000 |
| 2225 | 1800. | 0. | 0.00000 |
| 2226 | 1800. | 0. | 0.00000 |
| 2227 | 1800. | 0. | 0.00000 |
| 2228 | 1800. | 0. | 0.00000 |
| 2229 | 1800. | 0. | 0.00000 |
| 2230 | 1800. | 0. | 0.00000 |
| 2231 | 1800. | 0. | 0.00000 |
| 2232 | 1800. | 0. | 0.00000 |
| 2233 | 1800. | 0. | 0.00000 |
| 2234 | 1800. | 0. | 0.00000 |
| 2235 | 1800. | 0. | 0.00000 |
| 2236 | 1800. | 0. | 0.00000 |
| 2237 | 1800. | 0. | 0.00000 |
| 2238 | 1800. | 0. | 0.00000 |
| 2239 | 1800. | 0. | 0.00000 |
| 2240 | 1800. | 0. | 0.00000 |
| 2241 | 1800. | 0. | 0.00000 |
| 2242 | 1800. | 0. | 0.00000 |
| 2243 | 1800. | 0. | 0.00000 |
| 2244 | 1800. | 0. | 0.00000 |
| 2245 | 1800. | 0. | 0.00000 |
| 2246 | 1800. | 0. | 0.00000 |
| 2247 | 1800. | 0. | 0.00000 |
| 2248 | 1800. | 0. | 0.00000 |
| 2249 | 1800. | 0. | 0.00000 |
| 2250 | 1800. | 0. | 0.00000 |
| 2251 | 1800. | 0. | 0.00000 |
| 2252 | 1800. | 0. | 0.00000 |
| 2253 | 1800. | 0. | 0.00000 |
| 2254 | 1800. | 0. | 0.00000 |
| 2255 | 1800. | 0. | 0.00000 |
| 2256 | 1800. | 0. | 0.00000 |
| 2257 | 1800. | 0. | 0.00000 |
| 2258 | 1800. | 0. | 0.00000 |
| 2259 | 1800. | 0. | 0.00000 |
| 2260 | 1800. | 0. | 0.00000 |
| 2261 | 1800. | 0. | 0.00000 |
| 2262 | 1800. | 0. | 0.00000 |
| 2263 | 1800. | 0. | 0.00000 |
| 2264 | 1800. | 0. | 0.00000 |
| 2265 | 1800. | 0. | 0.00000 |
| 2266 | 1800. | 0. | 0.00000 |
| 2267 | 1800. | 0. | 0.00000 |
| 2268 | 1800. | 0. | 0.00000 |
| 2269 | 1800. | 0. | 0.00000 |
| 2270 | 1800. | 0. | 0.00000 |
| 2271 | 1800. | 0. | 0.00000 |
| 2272 | 1800. | 0. | 0.00000 |
| 2273 | 1800. | 0. | 0.00000 |
| 2274 | 1800. | 0. | 0.00000 |
| 2275 | 1800. | 0. | 0.00000 |
| 2276 | 1800. | 0. | 0.00000 |
| 2277 | 1800. | | |

| RANGE | 1790. | SIZE OF INTERVALS | 100. | NJ. OF INTERVALS | 18 | BOARD 7-T |
|-------|-------|-------------------|------|------------------|----|-----------|
| 1684. | . | * | | | | |
| 1584. | . | | | | | |
| 1484. | . | * | | | | |
| 1384. | . | * | | | | |
| 1284. | . | | | | | |
| 1184. | . | | * | | | |
| 1084. | . | | | | | |
| 984. | . | | * | | | |
| 884. | . | | | | | |
| 784. | . | | | * | | |
| 684. | . | | | | | |
| 584. | . | | | * | | |
| 484. | . | | | | | |
| 384. | . | | | | | |
| 284. | . | | | | | |
| 184. | . | | | | | |
| 84. | . | | | | | |
| 4. | . | | | | | |

BOARD 8-E

17

NO. OF INTERVALS

200.

SIZE OF INTERVALS

RANGE 3395.

ENROLMENT BY YEAR

NO. OF SCHOOLS 41
NO. OF FRENCH SCHOOLS 0
NO. OF BILINGUAL SCHOOLS 0

| YEAR | ENROLMENT | CHANGE | PERCENT CHANGE |
|--|-----------|--------|----------------|
| 1959 | 9020. | | |
| 1970 | 8916. | -104. | -1.15299 |
| 1971 | 8645. | -271. | -3.03948 |
| 1972 | 8355. | -290. | -3.35454 |
| 1973 | 8054. | -301. | -3.60263 |
| 1974 | 7883. | -171. | -2.12317 |
| 1975 | 7750. | -133. | -1.68717 |
| 1976 | 7365. | -385. | -4.96774 |
| 1977 | 6904. | -461. | -5.25933 |
| 1978 | 6576. | -328. | -4.75087 |
| 1979 | 6295. | -281. | -4.27311 |
| 1980 | 6044. | -251. | -3.98729 |
| 1981 | 5902. | -142. | -2.34944 |
| 1982 | 5793. | -109. | -1.84683 |
| 1983 | 5673. | -120. | -2.07147 |
| 1984 | 5625. | -48. | -0.84611 |
| 1985 | 5698. | 73. | 1.29778 |
| 1985 | 5794. | 96. | 1.68480 |
| AVE. RATE OF CHANGE OVER LAST 17 YEARS -2.54880% | | | |

69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86.

| RANGE | 3010. | SIZE OF INTERVALS | 200. | NO. OF INTERVALS | 16 | BOARD 8-S |
|-------|-------|-------------------|------|------------------|----|-----------|
| | | | | | | |

| | |
|--------------------------|----|
| NO. OF SCHOOLS | 10 |
| NO. OF FRENCH SCHOOLS | 1 |
| NO. OF BILINGUAL SCHOOLS | 5 |

ENROLMENT BY YEAR

| YEAR | ENROLMENT | CHANGE | PERCENT CHANGE |
|------|-----------|--------------------|----------------|
| 1959 | 8476. | | |
| 1970 | 8843. | 367. | 4.32987 |
| 1971 | 8933. | 90. | 1.01775 |
| 1972 | 8935. | 2. | 0.02239 |
| 1973 | 8877. | -58. | -0.64913 |
| 1974 | 9038. | 161. | 1.81363 |
| 1975 | 9211. | 173. | 1.91414 |
| 1976 | 9232. | 21. | 0.22799 |
| 1977 | 9207. | -25. | -0.27080 |
| 1978 | 8993. | -214. | -2.32432 |
| 1979 | 8690. | -303. | -3.36929 |
| 1980 | 8264. | -426. | -5.02119 |
| 1981 | 7613. | -651. | -7.87754 |
| 1982 | 7046. | -567. | -7.44773 |
| 1983 | 6594. | -452. | -6.84199 |
| 1984 | 6275. | -319. | -4.83773 |
| 1985 | 6192. | -83. | -1.32271 |
| 1986 | 6193. | 1. | 0.01615 |
| AVE. | 8114 | OVER LAST 14 YEARS | -2.5 |

| 年 | 月 | 日 | 時 | 分 | 秒 |
|----|----|----|----|----|----|
| 19 | 10 | 71 | 72 | 73 | 74 |
| 20 | 70 | 71 | 72 | 73 | 74 |
| 21 | 70 | 71 | 72 | 73 | 74 |
| 22 | 70 | 71 | 72 | 73 | 74 |
| 23 | 70 | 71 | 72 | 73 | 74 |
| 24 | 70 | 71 | 72 | 73 | 74 |
| 25 | 70 | 71 | 72 | 73 | 74 |
| 26 | 70 | 71 | 72 | 73 | 74 |
| 27 | 70 | 71 | 72 | 73 | 74 |
| 28 | 70 | 71 | 72 | 73 | 74 |
| 29 | 70 | 71 | 72 | 73 | 74 |
| 30 | 70 | 71 | 72 | 73 | 74 |
| 31 | 70 | 71 | 72 | 73 | 74 |
| 32 | 70 | 71 | 72 | 73 | 74 |
| 33 | 70 | 71 | 72 | 73 | 74 |
| 34 | 70 | 71 | 72 | 73 | 74 |
| 35 | 70 | 71 | 72 | 73 | 74 |
| 36 | 70 | 71 | 72 | 73 | 74 |
| 37 | 70 | 71 | 72 | 73 | 74 |
| 38 | 70 | 71 | 72 | 73 | 74 |
| 39 | 70 | 71 | 72 | 73 | 74 |
| 40 | 70 | 71 | 72 | 73 | 74 |
| 41 | 70 | 71 | 72 | 73 | 74 |
| 42 | 70 | 71 | 72 | 73 | 74 |
| 43 | 70 | 71 | 72 | 73 | 74 |
| 44 | 70 | 71 | 72 | 73 | 74 |
| 45 | 70 | 71 | 72 | 73 | 74 |
| 46 | 70 | 71 | 72 | 73 | 74 |
| 47 | 70 | 71 | 72 | 73 | 74 |
| 48 | 70 | 71 | 72 | 73 | 74 |
| 49 | 70 | 71 | 72 | 73 | 74 |
| 50 | 70 | 71 | 72 | 73 | 74 |
| 51 | 70 | 71 | 72 | 73 | 74 |
| 52 | 70 | 71 | 72 | 73 | 74 |
| 53 | 70 | 71 | 72 | 73 | 74 |
| 54 | 70 | 71 | 72 | 73 | 74 |
| 55 | 70 | 71 | 72 | 73 | 74 |
| 56 | 70 | 71 | 72 | 73 | 74 |
| 57 | 70 | 71 | 72 | 73 | 74 |
| 58 | 70 | 71 | 72 | 73 | 74 |
| 59 | 70 | 71 | 72 | 73 | 74 |
| 60 | 70 | 71 | 72 | 73 | 74 |
| 61 | 70 | 71 | 72 | 73 | 74 |
| 62 | 70 | 71 | 72 | 73 | 74 |
| 63 | 70 | 71 | 72 | 73 | 74 |
| 64 | 70 | 71 | 72 | 73 | 74 |
| 65 | 70 | 71 | 72 | 73 | 74 |
| 66 | 70 | 71 | 72 | 73 | 74 |
| 67 | 70 | 71 | 72 | 73 | 74 |
| 68 | 70 | 71 | 72 | 73 | 74 |
| 69 | 70 | 71 | 72 | 73 | 74 |
| 70 | 70 | 71 | 72 | 73 | 74 |
| 71 | 70 | 71 | 72 | 73 | 74 |
| 72 | 70 | 71 | 72 | 73 | 74 |
| 73 | 70 | 71 | 72 | 73 | 74 |
| 74 | 70 | 71 | 72 | 73 | 74 |
| 75 | 70 | 71 | 72 | 73 | 74 |
| 76 | 70 | 71 | 72 | 73 | 74 |
| 77 | 70 | 71 | 72 | 73 | 74 |
| 78 | 70 | 71 | 72 | 73 | 74 |
| 79 | 70 | 71 | 72 | 73 | 74 |
| 80 | 70 | 71 | 72 | 73 | 74 |
| 81 | 70 | 71 | 72 | 73 | 74 |
| 82 | 70 | 71 | 72 | 73 | 74 |
| 83 | 70 | 71 | 72 | 73 | 74 |
| 84 | 70 | 71 | 72 | 73 | 74 |
| 85 | 70 | 71 | 72 | 73 | 74 |
| 86 | 70 | 71 | 72 | 73 | 74 |

| RANGE | 664. | SIZE OF INTERVALS | 50. | NJ. OF INTERVALS | 14 | BOARD | 9 |
|-------|------|-------------------|-----|------------------|----|-------|---|
| 2100. | . | * | | | | | |
| 2050. | . | | | | | | |
| 2000. | . | | | | | | |
| 1950. | . | * | | | | | |
| 1900. | . | * | | | | | |
| 1850. | . | * | | | | | |
| 1800. | . | | | | | | |
| 1750. | . | | | | | | |
| 1700. | . | | | | | | |
| 1650. | . | | | | | | |
| 1600. | . | | | | | | |
| 1550. | . | | | | | | |
| 1500. | . | | | | | | |
| 1450. | . | | | | | | |
| 1400. | . | | | | | | |

RANGE 8025. SIZE OF INTERVALS 11 BOARD 10

ENROLMENT BY YEAR

NO. OF SCHOOLS 58
NO. OF FRENCH SCHOOLS 1
NO. OF BILINGUAL SCHOOLS 0

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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YEAR ENROLMENT CHANGE PERCENT CHANGE

| | | | |
|------|-----------------------------------|-------|-----------|
| 1959 | 23295. | 232. | 0.99592 |
| 1970 | 23527. | 400. | 1.70017 |
| 1971 | 23927. | -377. | -1.57563 |
| 1972 | 23550. | -190. | -0.80679 |
| 1973 | 23360. | -223. | -0.95462 |
| 1974 | 23137. | -86. | -0.37170 |
| 1975 | 23051. | -731. | -3.17123 |
| 1976 | 22320. | -667. | -3.88441 |
| 1977 | 21453. | -973. | -4.53550 |
| 1978 | 20480. | -843. | -4.11621 |
| 1979 | 19637. | -931. | -4.74105 |
| 1980 | 18706. | -636. | -3.39993 |
| 1981 | 18070. | -591. | -3.27361 |
| 1982 | 17479. | -521. | -2.98072 |
| 1983 | 16958. | -400. | -2.35877 |
| 1984 | 16558. | -365. | -2.20437 |
| 1985 | 16193. | -291. | -1.79707 |
| 1986 | 15902. | | |
| AVE. | RATE OF CHANGE OVER LAST 15 YEARS | | -2.677913 |

APPENDIX C

Uniform Code of Accounts Data Collection Instrument

Commission on Declining School Enrolments

EFFECTS OF DECLINING ENROLMENTS ON NON-CERTIFICATED STAFF

Directions for Providing Data

Purpose

To collect data necessary to make longitudinal projections as to:

- a) numbers of non-certificated staff in various categories
- b) ratios of non-certificated staff to students
- c) ratios of non-certificated staff to certificated staff
- d) estimates of costs of staffing

Method

Categories of staff defined in the Ministry of Education Uniform Code of Accounts are being used. Data as to full-time equivalent (FTE) staff in various categories and the total cost of salaries and wages for each category in each of two years are to be entered on each of the accompanying sheets. Data should be provided separately for Elementary (E), Secondary (S), Retarded Children's School (R) if applicable.

Exceptions

If your board's records are not maintained according to the Uniform Code of Accounts, please

- a) complete the forms as accurately as possible, noting differences in definition, or,
- b) provide equivalent data using your categories.

Missing Data

Most important are FTE data for 1976. If earlier data or data on salaries are unavailable at present, please indicate if and when these can be provided.

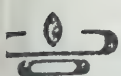
Questions

Contact: Dr. Steve Lawton, Department of Educational Administration
(416) 923-6641, x437

Deadline: Please return by January 15, 1978 to:

Dr. Stephen B. Lawton
Department of Educational Administration
The Ontario Institute for Studies in Education
252 Bloor Street West
Toronto, Ontario M5S 1V6

Many thanks for your assistance!



Ministry of Education, Ontario

UNIFORM CODE OF ACCOUNTS

EXPENDITURE ACCOUNTS

| PART | SECTION | PAGE |
|--------------------------------|---------|------|
| VI | 1 | 1 |
| DATE ISSUED FEBRUARY 1969.. | | |
| DATE REVISED OCTOBER 1972..... | | |

FUNCTION.....BUSINESS ADMINISTRATION. ECONOMIC CLASSIFICATION.SALARIES AND WAGES.....

CODE.....10.....

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|---|---|
| | | | <p>NOTE: Expenditures, including salaries and wages for Instruction supervisory and administrative personnel and clerical and secretarial staff providing assistance to them are <u>not</u> to be included in this section. These expenditures should be entered in the accounts under section 3, Instruction.</p> |
| 10020 4 | O | Trustees' Honoraria x | Honoraria paid to elected officials. |
| | | | Gross earnings including holiday pay and overtime of the following personnel: |
| 10030 1 | E | Senior Management Personnel | Senior Business Officials - These include the "Secretary-Treasurer", "Superintendent of Business Affairs" (Business Administrator), "Assistant Superintendent of Business Affairs", the heads and deputies of the Legal, Comptroller's and Public Relation Departments, and where applicable, the Superintendent of the combined Plant Maintenance and Plant Operations Department. |
| 10030 2 | S | | |
| 10030 3 | R | | |
| 10030 4 | O | | |
| 10050 1 | E | Supervisory and Administrative | All Supervisory and Administrative Personnel, full or part-time -- This includes personnel in the Finance, Public Relations and Legal Departments, etc., except those included immediately above. |
| 10050 2 | S | | |
| 10050 3 | R | | |
| 10050 4 | O | | |
| 10070 1 | E | Technical and Specialized - Architectural and Engineering | All staff related directly to the Architectural and Engineering Departments. |
| 10070 2 | S | | |
| 10070 3 | R | | |
| 10070 4 | O | | |
| 10090 1 | E | Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff and architectural and engineering staff. This includes full or part-time employees. |
| 10090 2 | S | | |
| 10090 3 | R | | |
| 10090 4 | O | | |
| 10390 1 | E | Temporary Assistance | Cost of employment agency personnel, and personnel hired on a temporary basis, e.g. <u>not</u> on Board's payroll. |
| 10390 2 | S | | |
| 10390 3 | R | | |
| 10390 4 | O | | |

SCHOOL BOARD:

COMMENTS ON
CATEGORY DEFINITIONS

| | DECEMBER 31
1 9 ____ | | DECEMBER 31
1 9 7 6 | |
|------------------|-------------------------|-------------------------------|------------------------|-------------------------------|
| REF | FTE | Salary
& Wage
(\$1000s) | FTE | Salary
& Wage
(\$1000s) |
| O | | | | |
| E
S
R | | | | |
| E
S
R | | | | |
| E
S
R | | | | |
| E
S
R
O | | | | |
| E
S
R | | | | |



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FUNCTION COMPUTER SERVICES ECONOMIC CLASSIFICATION SALARIES AND WAGES

CODE 20

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|--|--|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| 20030 1 | E | Supervisory and Administrative | Supervisory and administrative personnel, but excluding data processing technicians, such as keypunch operators, computer operators and programmers. |
| 20030 2 | S | | |
| 20030 3 | R | | |
| 20030 4 | O | | |
| 20070 1 | E | Technical and Specialized
- Computer Operations | Personnel related directly to the operation of the computer and ancillary equipment, such as keypunch operators, computer operators, programmers and system analysts. |
| 20070 2 | S | | |
| 20070 3 | R | | |
| 20070 4 | O | | |
| 20090 1 | E | Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff and technical and specialized staff. This includes full or part-time employees. |
| 20090 2 | S | | |
| 20090 3 | R | | |
| 20090 4 | O | | |
| | | | <u>NOTE:</u> |
| | | | These accounts do <u>not</u> include any certificated personnel who are teaching computer science. They are to be included in "Instruction". |
| 20390 1 | E | Temporary Assistance | Cost of employment agency personnel, and all personnel hired on a temporary basis, e.g. personnel <u>not</u> on Board's payroll. |
| 20390 2 | S | | |
| 20390 3 | R | | |
| 20390 4 | O | | |

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UNCTION INSTRUCTION ECONOMIC CLASSIFICATION SALARIES AND WAGES
ODE 30 - 49

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|---|---|
| 32030 1 | E | Instructional Administration
- Senior Management Personnel | Gross Earnings including holiday pay and overtime of the following personnel:

Senior Instructional Administration Official
- These include the "Director of Education", "Assistant Director", "Superintendents" and "Assistant Superintendents of Schools". |
| 32030 2 | S | | |
| 32030 3 | R | | |
| 32030 4 | O | | |
| 32050 1 | E | - Supervisory and
Administrative | Non-Teaching Supervisory and Administrative Personnel related directly to the instructional programme - These include:

Inspectors or Area Superintendents
Principals not assigned to a school
Directors or Superintendents of Subject Fields
Co-Ordinators and Consultants
Other similar positions

Does not include the personnel whose prime activity is classroom teaching. |
| 32050 2 | S | | |
| 32050 3 | R | | |
| 32050 4 | O | | |
| 32090 1 | E | - Clerical and Secretarial | All clerical and secretarial staff required to provide office assistance to the senior management and supervisory and administrative staffs. This includes full or part-time employees. |
| 32090 2 | S | | |
| 32090 3 | R | | |
| 32090 4 | O | | |



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SECTION INSTRUCTION ECONOMIC CLASSIFICATION SALARIES AND WAGES
DE 30 - 49

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|------------------------------|---|
| | | | Gross Earnings including holiday pay and overtime of the following personnel. |
| 34090 1 | E | School Office Administration | |
| 34090 2 | S | - Clerical and Secretarial | Clerical and secretarial staff located in the school offices required to provide office assistance. This excludes non-certificated, secretarial, and clerical staff, who are assigned to the Guidance, Library, Audio-Visual and O.M.R.P. These are included under "Educational Services". Also excluded is the clerical and secretarial staff used for Evening Courses of Study. |
| 34090 3 | R | | |
| 34090 4 | O | | |
| 34390 1 | E | - Temporary Assistance | Cost of employment agency personnel, and all personnel hired on a temporary basis, e.g. personnel not on Board's payroll. This account pertains to all of the sub-functions of Instruction. |
| 34390 2 | S | | |
| 34390 3 | R | | |
| 34390 4 | O | | |
| | | Day School Regular Courses | Personnel directly related to the provision of Day School Regular Courses for school-age children. Personnel may be either certificated or non-certificated. They are located in the schools. They include: |
| | | Instructional Personnel | |
| 36100 1 | E | - Principals and | Principals |
| 36100 2 | S | Vice-Principals | Vice-Principals |
| 36100 3 | R | | |
| 36100 4 | O | | |



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FUNCTION INSTRUCTION ECONOMIC CLASSIFICATION SALARIES AND WAGES
CODE 30 - 49

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|--|--|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| | | Instructional Personnel
(Continued) | |
| 36200 1 | E | - Teachers | Regular Teachers |
| 36200 2 | S | | Part-time Teachers |
| 36200 3 | R | | Supply Teachers, Etc. |
| 36200 4 | O | | |
| 36300 1 | E | - Other Instructional | Guidance and Library Personnel |
| 36300 2 | S | | possessing teaching certificates |
| 36300 3 | R | | Lay Assistants, Etc. |
| 36300 4 | O | | |
| | | | NOTE: Salaries and Wages for Special Education, Special Courses, Evening Courses, O.M.R.P. and Retarded Children are <u>not</u> included under the above sub-function. |
| | | Special Education | Personnel directly related to the provision of Day School Special Education Courses as those set forth in section 46 of Ontario Regulation 339/66, as amended, and include such classes as Hard of Hearing, Speech Correction, Limited Vision, etc. The personnel may be either certificated or non-certificated. They are located in the schools and are involved in classroom instruction. They include: |
| | | Instructional Personnel | |
| 38100 1 | E | - Principals and | Principals |
| 38100 2 | S | Vice-Principals | Vice-Principals |
| 38100 3 | R | | |
| 38100 4 | O | | |



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INSTRUCTION
DE 30 - 49

ECONOMIC CLASSIFICATION SALARIES AND WAGES

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|--|---|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| | | Instructional Personnel
(Continued) | |
| 38200 1 | E | - Teachers | Regular Teachers |
| 38200 2 | S | | Part-time Teachers |
| 38200 3 | R | | Supply Teachers, Etc. |
| 38200 4 | | | |
| 38300 1 | E | - Other | Lay Assistants |
| 38300 2 | S | | Other certificated personnel in |
| 38300 3 | R | | the school |
| 38300 4 | | | |



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SECTION EDUCATIONAL SERVICES ECONOMIC CLASSIFICATION SALARIES AND WAGES
CODE 50 - 59

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|-----------------------------|---|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| 52050 1 | E | Audio-Visual | |
| 52050 2 | S | - Supervisory and | Supervisory and administrative personnel. |
| 52050 3 | R | Administrative | |
| 52050 4 | O | | |
| 52070 1 | E | - Technical and Specialized | Personnel who regularly perform the technical duties of the department. |
| 52070 2 | S | | |
| 52070 3 | R | | |
| 52070 4 | O | | |
| 52090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 52090 2 | S | | |
| 52090 3 | R | | |
| 52090 4 | O | | |
| 54050 1 | E | Guidance and Counselling | |
| 54050 2 | S | - Supervisory and | Supervisory and administrative personnel, but excluding all certificated personnel in the school. Specialists in Guidance and Counselling are included below. |
| 54050 3 | R | Administrative | |
| 54050 4 | O | | |
| 54070 1 | E | - Technical and Specialized | Non-certificated personnel who are specialists in guidance and counselling. Certificated personnel in the school involved in this field are included under "Instruction". |
| 54070 2 | S | | |
| 54070 3 | R | | |
| 54070 4 | O | | |
| 54090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 54090 2 | S | | |
| 54090 3 | R | | |
| 54090 4 | O | | |



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SECTION EDUCATIONAL SERVICES ECONOMIC CLASSIFICATION SALARIES AND WAGES
DE 50 - 59

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|-----------------------------|--|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| | | Library | |
| 6050 1 | E | - Supervisory and | Supervisory and administrative personnel, but excluding all certificated personnel in the school. Certificated personnel who are involved in this field are included under "Instruction". |
| 6050 2 | S | Administrative | |
| 6050 3 | R | | |
| 6050 4 | O | | |
| 6070 1 | E | - Technical and Specialized | Non-certificated personnel who are specialists in the library field, such as librarians without teaching certificates. |
| 6070 2 | S | | |
| 6070 3 | R | | |
| 6070 4 | O | | |
| 6090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 6090 2 | S | | |
| 6090 3 | R | | |
| 6090 4 | O | | |
| | | Psychological | |
| 8050 1 | E | - Supervisory and | Supervisory and administrative personnel. Does <u>not</u> include specialists such as psychiatrists, psychologists and school social workers who are not supervisory and administrative personnel. These are included below. |
| 8050 2 | S | Administrative | |
| 8050 3 | R | | |
| 8050 4 | O | | |
| 8070 1 | E | - Technical & Specialized | Personnel who regularly perform the technical duties of the psychological department. (e.g. psychological testing). |
| 8070 2 | S | | |
| 8070 3 | R | | |
| 8070 4 | O | | |
| 8090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 8090 2 | S | | |
| 8090 3 | R | | |
| 8090 4 | O | | |



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FUNCTION EDUCATIONAL SERVICES ECONOMIC CLASSIFICATION SALARIES AND WAGES
CODE 50 - 59

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|-----------------------------|---|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| | | Other | |
| 59050 1 | E | - Supervisory and | Other supervisory and administrative personnel related directly to Educational Services. This would include such activities as "Examinations", "Research and Experimentation", etc. |
| 59050 2 | S | Administrative | |
| 59050 3 | R | | |
| 59050 4 | O | | |
| 59070 1 | E | - Technical and Specialized | Technical and specialized personnel directly related to this services activity other than included in "Other - Supervisory and Administrative Personnel". |
| 59070 2 | S | | |
| 59070 3 | R | | |
| 59070 4 | O | | |
| 59090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 59090 2 | S | | |
| 59090 3 | R | | |
| 59090 4 | O | | |
| | | Educational Services | |
| 59390 | E | - Temporary Assistance | Cost of employment agency personnel, and all personnel hired on a temporary basis, e.g. personnel <u>not</u> on Board's payroll. This account pertains to all of the sub-functions of Educational Services. |
| 59390 | S | | |
| 59390 | R | | |
| 59390 | O | | |



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FUNCTION ATTENDANCE, HEALTH & FOOD SERVICES ECONOMIC CLASSIFICATION SALARIES AND WAGES.....
CODE 60 - 69

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|-----------------------------|--|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| | | Attendance | |
| 62050 1 | E | - Supervisory and | Supervisory and administrative personnel, but excluding those related directly to the provision of the attendance service such as attendance officers. |
| 62050 2 | S | Administrative | |
| 62050 3 | R | | |
| 62050 4 | O | | |
| 62070 1 | E | - Technical and Specialized | Non-certificated personnel related directly to the provision of the attendance service such as attendance officers. |
| 62070 2 | S | | |
| 62070 3 | R | | |
| 62070 4 | O | | |
| 62090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance. This includes full or part-time employees. |
| 62090 2 | S | | |
| 62090 3 | R | | |
| 62090 4 | O | | |
| 62390 1 | E | Temporary Assistance | Cost of employment agency personnel, and all personnel hired on a temporary basis, e.g. personnel not on Board's payroll. This account pertains to all of the sub-functions of Attendance, Health and Food Services. |
| 62390 2 | S | | |
| 62390 3 | R | | |
| 62390 4 | O | | |
| | | Health | |
| 64050 1 | E | - Supervisory and | Supervisory and administrative personnel but excluding all certificated personnel and those directly related to the provision of the health services, such as doctors, nurses and dentists. |
| 64050 2 | S | Administrative | |
| 64050 3 | R | | |
| 64050 4 | O | | |
| 64070 1 | E | - Technical and Specialized | Personnel related directly to the provision of health services. These include doctors, nurses and dentists. Certificated personnel who are teaching this subject are included under "Instruction". |
| 64070 2 | S | | |
| 64070 3 | R | | |
| 64070 4 | O | | |
| 64090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance. This includes full or part-time employees. |
| 64090 2 | S | | |
| 64090 3 | R | | |
| 64090 4 | O | | |



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FUNCTION ATTENDANCE, HEALTH & FOOD SERVICES ECONOMIC CLASSIFICATION SALARIES AND WAGES

CODE

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|-----------------------------|--|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| | | Food Services | |
| 66050 1 | E | - Supervisory and | Supervisors and administrative personnel, but excluding personnel related directly to food preparation and serving operation, such as cooks, waitresses, dishwashers and dieticians. |
| 66050 2 | S | Administrative | |
| 66050 3 | R | | |
| 66050 4 | O | | |
| 66070 1 | E | - Technical and Specialized | Personnel related directly to the preparation and serving of food. This includes cooks, waitresses, dishwashers and dieticians whether on a part-time or full-time basis. |
| 66070 2 | S | | |
| 66070 3 | R | | |
| 66070 4 | O | | |
| 66090 1 | E | - Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance. This includes full or part-time employees. |
| 66090 2 | S | | |
| 66090 3 | R | | |
| 66090 4 | O | | |



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FUNCTION PLANT OPERATION ECONOMIC CLASSIFICATION... SALARIES AND WAGES
CODE 70

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|-------------------------------------|--|
| 70050 1 | E | Supervisory and Administra-
tive | Gross earnings including holiday pay and overtime of the following personnel. |
| 70050 2 | S | | Supervisors and Administrative Personnel - This includes the Superintendent of Plant Operations, but excludes personnel performing plant operation functions such as caretakers and stationary engineers. Where, in addition to the Superintendents of Plant Operations and Plant Maintenance, there is an administrative supervisor of the combined Operations and Maintenance functions, the cost is to be included under "Business Administration." |
| 70050 3 | R | | |
| 70050 4 | O | | |
| 70070 1 | E | Technical and Specialized | Personnel related directly to "Plant Operations" -- These include caretakers and stationary engineers whether on a part-time or full-time basis. |
| 70070 2 | S | | |
| 70070 3 | R | | |
| 70070 4 | O | | |
| 70090 1 | E | Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 70090 2 | S | | |
| 70090 3 | R | | |
| 70090 4 | O | | |
| 70390 1 | E | Temporary Assistance | Cost of employment agency personnel and all personnel hired on a temporary basis, e.g., personnel not on Board's payroll. |
| 70390 2 | S | | |
| 70390 3 | R | | |
| 70390 4 | O | | |



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FUNCTION PLANT MAINTENANCE ECONOMIC CLASSIFICATION SALARIES AND WAGES
CODE 75

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|--------------------------------|--|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| 75050 1 | E | Supervisory and Administrative | Superintendent of Maintenance, supervisors, foremen, building inspectors, administrative personnel excluding secretarial and clerical staff. |
| 75050 2 | S | | |
| 75050 3 | R | | |
| 75050 4 | O | | |
| | | | Personnel who relate to the operational activities of the Plant Maintenance Department such as plumbers, carpenters, electricians and painters, are to be included in "Technical and Specialized Personnel" below. |
| 75070 1 | E | Technical and Specialized | Personnel related directly to "Plant Maintenance". These include plumbers, carpenters, electricians and painters whether on a part-time or full-time basis. |
| 75070 2 | S | | |
| 75070 3 | R | | |
| 75070 4 | O | | |
| 75090 1 | E | Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 75090 2 | S | | |
| 75090 3 | R | | |
| 75090 4 | O | | |
| 75390 1 | E | Temporary Assistance | Cost of employment agency personnel, and all personnel hired on a temporary basis, e.g. personnel <u>not</u> on Board's payroll. |
| 75390 2 | S | | |
| 75390 3 | R | | |
| 75390 4 | O | | |
| | | | <u>NOTE:</u> |
| | | | The costs of the Architectural and Engineering Departments are included under the function "Business Administration". |



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FUNCTION...TRANSPORTATION..... ECONOMIC CLASSIFICATION...SALARIES AND WAGES.....
CODE.....76 - 81.....

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|--------------------------------|--|
| | | | Gross Earnings including holiday pay and overtime of the following personnel: |
| | | <u>Administration</u> | |
| 76050 1 | E | Supervisory and Administrative | Supervisors and Administrative Personnel such as a Transportation officer(s) but excludes personnel engaged in the operation and maintenance of buses. Where an individual performs administrative or supervisory duties for other functions as well as transportation, his salary may be prorated and allocated between the applicable functions (see Note, Part II, Section 3, Page 10). |
| 76050 2 | S | | |
| 76050 3 | R | | |
| 76050 4 | O | | |
| 76090 1 | E | Clerical and Secretarial | Clerical and secretarial staff required to provide office assistance to the supervisory and administrative staff. This includes full or part-time employees. |
| 76090 2 | S | | |
| 76090 3 | R | | |
| 76090 4 | O | | |
| 76390 1 | E | Temporary Assistance | Cost of employment agency personnel, and all personnel hired on a temporary basis, e.g. personnel <u>not</u> on Board's payroll. |
| 76390 2 | S | | |
| 76390 3 | R | | |
| 76390 4 | O | | |



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FUNCTION. TRANSPORTATION.....

ECONOMIC CLASSIFICATION.... SALARIES & WAGES.....

CODE.....76-81.....

| ACCOUNT CODE | REF. | NAME | DEFINITION |
|--------------|------|--|----------------------------------|
| 77070 1 | E | <u>Home-School</u> | |
| 77070 2 | S | Technical and Specialized | |
| 77070 3 | R | | <u>Technical and Specialized</u> |
| 77070 4 | O | | |
| | | <u>Home to Ontario Schools
for the Deaf or Blind</u> | |
| 78070 1 | E | Technical and Specialized | |
| 78070 2 | S | | |
| 78070 3 | R | | |
| 78070 4 | O | | |
| | | <u>School to School</u> | |
| 80070 1 | E | Technical and Specialized | |
| 80070 2 | S | | |
| 80070 3 | R | | |
| 80070 4 | O | | |
| | | <u>Other</u> | |
| 81070 1 | E | Technical and Specialized | |
| 81070 2 | S | | |
| 81070 3 | R | | |
| 81070 4 | O | | |

NOTE:

The above definition applies to all sub-functions on this page (see part. II Section 3)

APPENDIX D

Algorithm for Coding OMERS Age Data

Outlined below is the criterion used in calculating age:

Age in years

= Current Dat (YYMM) - Birth Datt (YYMM)

= Yrs., Mths.

If Mths. > 6, add 1 to Yrs.

APPENDIX E

Rates of Attrition for Non-Certificated Staff

| Rates of Attrition [†] | | | | |
|---------------------------------|------------|------------|-------|-------------|
| Age | Retirement | Disability | Death | Termination |
| 56 | .000 | .006 | .005 | .069 |
| 57 | .000 | .007 | .005 | .068 |
| 58 | .000 | .007 | .006 | .066 |
| 59 | .000 | .008 | .007 | .065 |
| 60 | .143 | .009 | .007 | .064 |
| 61 | .185 | .010 | .008 | .063 |
| 62 | .260 | .010 | .008 | .061 |
| 63 | .340 | .011 | .009 | .058 |
| 64 | .510 | .012 | .010 | .055 |
| 65 | 1.000 | | | |

[†]Source: Anthony, *et al.* (1976, pp. 84-87).

APPENDIX F

Questionnaire on Staffing Policies and Practices

COMMISSION ON DECLINING SCHOOL ENROLMENTS (CODE)

Effects of Declining Enrolment on Non-Certificated Staff

S. B. Lawton, Principal Investigator
Department of Educational Administration
The Ontario Institute for Studies in Education

Questionnaire on Staffing Policies and Practices

Although statistical data are being collected in order to make projections as to the effect declining enrolments may have on the numbers of staff in various categories, a number of issues cannot be answered by numbers alone. Information as to your board's policies and practices in the following areas are therefore needed. NOTE: IF YOU PREFER, A PHONE INTERVIEW ON THIS TOPIC CAN BE ARRANGED BY CONTACTING ME AT (416) 923-6641, x437.

BOARD: _____ NAME AND POSITION
OF RESPONDENT(S) _____

Allocation of Non-Certificated Staff

How are the following categories of non-certificated staff allocated to schools and other units? Are formulae used? If so, please describe briefly, or attach a copy of the board guidelines or policies (codes refer to the MOE Uniform Code of Accounts).

School Office Administration - Clerical and Secretarial (34090)

Day-School Regular Courses - Lay Assistants (36300)

Audio-Visual - Technical and Specialized (52070)

Guidance and Counselling - Technical and Specialized (54070)

Library - Technical and Specialized (56050)

Psychological Services - Technical and Specialized (58050)

Attendance - Technical and Specialized (62070)

Health - Technical and Specialized (64050)

Food Services - Technical and Specialized (66070)
(e.g., cooks, dishwashers, dieticians, etc.)

Plant Operations - Technical and Specialized (70070)
(e.g., caretakers, and stationary engineers)

Plant Maintenance - Technical and Specialized (75070)
(e.g., plumbers, carpenters, electricians, painters)

Contractural Agreements

Do you have union contracts with any of the staff categories named below? If so, please indicate which categories with a check mark. (Please forward a copy of the contract(s).)

_____ School Office Administration - Clerical and Secretarial (34090)

_____ Day-School Regular Courses - Lay Assistants (36300)

_____ Audio-Visual - Technical and Specialized (52070)

_____ Guidance and Counselling - Technical and Specialized (54070)

_____ Library - Technical and Specialized (56050)

_____ Psychological Services - Technical and Specialized (58050)

_____ Attendance - Technical and Specialized (62070)

_____ Health - Technical and Specialized (64050)

_____ Food Services - Technical and Specialized (66070)

_____ Plant Operations - Technical and Specialized (70070)

_____ Plant Maintenance - Technical and Specialized (75070)

_____ Other _____

Terminations

Has non-certificated staff been reduced in size through a policy of attrition adopted as a direct or indirect response to financial stringencies in your board? Please explain.

Have any non-certificated staff been dismissed due directly or indirectly to financial stringencies in your board? Please indicate the categories and number of full-time-equivalent positions involved in the past 12 months.

Terminations (Continued)

To what extent are the financial stringencies which caused the terminations or attrition the result of declining enrolments? That is, if enrolments had been steady, would the board have had sufficient revenue to maintain some or all of these positions?

What changes in the grant structure would moderate the difficulties noted above, assuming that the total amount of funds allocated for elementary and secondary education remains the same?

Comments and Issues

Do you have any comments to make regarding the topic of this investigation? Are there issues we have not touched upon which you feel should be included in the study?

Many thanks for your cooperation. Please return the questionnaire about allocation formulae and contracts to the address below before January 15, 1978.

Dr. Stephen B. Lawton
Department of Educational Administration
The Ontario Institute for Studies in Education
252 Bloor Street West
Toronto, Ontario
M5S 1V6

(416) 923-6641, x437

APPENDIX G

Staffing Ratios by Type of Position

BOARD 1-E

| CATEGORIES | 1970 | FTE | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|--------|---------|----------|--------|-------|------------|------|--------|--------|
| | | | 1970 | %DIFF | 1976 | %DIFF | 1976 | %DIFF | |
| NC : ADMINISTRATION | 27.60 | 49.00 | — | 77.54 | 1.58 | — | 0.08 | 112.05 | 0.33 |
| NC : TECHNICAL | 801.40 | 575.00 | — | -15.77 | 21.77 | — | 1.12 | 0.60 | 4.59 |
| NC : CLERICAL&SECRET | 391.30 | 329.00 | — | -15.92 | 10.61 | — | 0.55 | 0.42 | 2.24 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 98.60 | 51.00 | 0.00 | -48.28 | 0.00 | 0.00 | 0.14 | -38.22 | 0.35 |
| C : TEACHERS | 0.00 | 3049.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.07 | 0.00 | 20.74 |

BOARD 1-S

| CATEGORIES | 1970 | FTE | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|--------|---------|----------|--------|-------|------------|------|--------|--------|
| | | | 1970 | %DIFF | 1976 | %DIFF | 1976 | %DIFF | |
| NC : ADMINISTRATION | 17.00 | 45.00 | — | 164.71 | 2.06 | — | 0.12 | 137.54 | 0.88 |
| NC : TECHNICAL | 610.10 | 589.00 | — | -3.46 | 26.98 | — | 1.63 | -13.37 | 11.55 |
| NC : CLERICAL&SECRET | 290.40 | 283.00 | — | -2.55 | 12.96 | — | 0.78 | -12.55 | 5.55 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 29.60 | 31.00 | 0.00 | 4.73 | 0.00 | 0.00 | 0.09 | -6.02 | 0.61 |
| C : TEACHERS | 0.00 | 2152.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.94 | 0.00 | 42.20 |

BOARD 1-T

| CATEGORIES | 1970 | FTE | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|---------|---------|----------|--------|-------|------------|------|--------|--------|
| | | | 1970 | %DIFF | 1976 | %DIFF | 1976 | %DIFF | |
| NC : ADMINISTRATION | 44.60 | 94.00 | 0.79 | 110.76 | 1.78 | 123.84 | 0.10 | 128.22 | 0.47 |
| NC : TECHNICAL | 1411.50 | 1264.00 | 25.15 | -10.45 | 23.92 | -4.89 | 1.31 | -3.03 | 6.38 |
| NC : CLERICAL&SECRET | 681.70 | 512.00 | 12.15 | -10.22 | 11.58 | -4.65 | 0.63 | -2.79 | 3.09 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 10.70 | 17.00 | 0.19 | 58.88 | 0.32 | 68.74 | 0.02 | 72.04 | 0.09 |
| C : ADMINISTRATION | 128.20 | 82.00 | 0.00 | -36.04 | 0.00 | 0.00 | 0.09 | -30.74 | 0.41 |
| C : TEACHERS | 5483.20 | 5201.00 | 0.00 | -5.14 | 0.00 | 0.00 | 5.40 | 2.72 | 26.27 |

BOARD 2-E

| CATEGORIES | FTE | | NC:C*100 | | NC/C:P*100 | | NC/C:S | |
|----------------------|--------|--------|----------|-------|------------|------|--------|-------|
| | 1969 | 1976 | 1969 | 1976 | 1969 | 1976 | 1969 | 1976 |
| VC : ADMINISTRATION | 0.50 | 1.00 | 100.00 | 0.09 | 0.00 | 0.01 | 0.00 | 0.02 |
| VC : TECHNICAL | 76.70 | 120.70 | 57.37 | 14.15 | 0.48 | 0.91 | 0.48 | 2.62 |
| VC : CLERICAL&SECRET | 19.00 | 35.00 | 89.47 | 3.51 | 0.12 | 0.27 | 0.12 | 0.78 |
| VC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| VC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 11.00 | 0.00 | -100.00 | 0.00 | 0.07 | 0.00 | 0.07 | 0.00 |
| C : TEACHERS | 531.00 | 630.00 | 18.64 | 0.00 | 3.35 | 4.74 | 3.35 | 13.70 |

BOARD 2-S

| CATEGORIES | FTE | | NC:C*100 | | NC/C:P*100 | | NC/C:S | |
|----------------------|--------|--------|----------|-------|------------|------|--------|-------|
| | 1969 | 1976 | 1969 | 1976 | 1969 | 1976 | 1969 | 1976 |
| VC : ADMINISTRATION | 0.10 | 0.00 | -100.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| VC : TECHNICAL | 91.40 | 110.00 | 20.90 | 19.24 | 1.13 | 1.20 | 1.13 | 13.81 |
| VC : CLERICAL&SECRET | 43.00 | 45.00 | 6.98 | 9.05 | 0.53 | 0.50 | 0.53 | 5.75 |
| VC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| VC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : TEACHERS | 475.00 | 520.00 | 9.47 | 0.00 | 5.85 | 5.65 | 5.85 | 65.00 |

BOARD 2-F

| CATEGORIES | FTE | | NC:C*100 | | NC/C:P*100 | | NC/C:S | |
|----------------------|---------|---------|----------|-------|------------|------|--------|-------|
| | 1969 | 1976 | 1969 | 1976 | 1969 | 1976 | 1969 | 1976 |
| VC : ADMINISTRATION | 10.10 | 13.00 | 33.66 | 0.98 | 0.04 | 0.06 | 0.04 | 0.25 |
| VC : TECHNICAL | 168.10 | 233.20 | 38.73 | 16.34 | 0.70 | 1.04 | 0.70 | 4.32 |
| VC : CLERICAL&SECRET | 84.50 | 112.00 | 33.14 | 8.21 | 0.35 | 0.50 | 0.35 | 2.08 |
| VC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| VC : TRUSTEES | 17.00 | 17.00 | 0.00 | 1.65 | 0.07 | 0.08 | 0.07 | 0.31 |
| C : ADMINISTRATION | 23.00 | 7.00 | -69.57 | 0.00 | 0.10 | 0.03 | 0.10 | 0.13 |
| C : TEACHERS | 1006.00 | 1150.00 | 14.31 | 0.00 | 4.20 | 5.11 | 4.20 | 21.30 |

BOARD 3-E

| CATEGORIES | FTE | | | NC/C*100 | | | NC/C:P*100 | | | NC/C:S | |
|----------------------|--------|--------|--------|----------|-------|--------|------------|------|--------|--------|------|
| | 1969 | 1975 | \$DIFF | 1969 | 1976 | \$DIFF | 1969 | 1976 | \$DIFF | 1976 | 1976 |
| NC : ADMINISTRATION | 8.00 | 11.00 | 37.50 | 1.74 | 2.41 | 38.10 | 0.07 | 0.12 | 65.83 | 0.29 | |
| NC : TECHNICAL | 86.00 | 98.00 | 13.95 | 18.74 | 21.44 | 14.95 | 0.78 | 1.08 | 37.43 | 2.58 | |
| NC : CLERICAL&SECRET | 8.50 | 13.50 | 58.82 | 1.85 | 2.95 | 59.52 | 0.08 | 0.15 | 91.54 | 0.36 | |
| NC : TEMPORARYASSIST | 15.50 | 26.00 | 67.74 | 3.38 | 5.69 | 68.48 | 0.14 | 0.29 | 102.30 | 0.68 | |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| C : ADMINISTRATION | 5.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 20.60 | 0.13 | |
| C : TEACHERS | 454.00 | 452.00 | -0.44 | 0.00 | 0.00 | 0.00 | 4.13 | 4.96 | 20.07 | 11.89 | |

BOARD 3-S

| CATEGORIES | FTE | | | NC/C*100 | | | NC/C:P*100 | | | NC/C:S | |
|----------------------|--------|--------|--------|----------|-------|--------|------------|------|--------|--------|------|
| | 1969 | 1975 | \$DIFF | 1969 | 1976 | \$DIFF | 1969 | 1976 | \$DIFF | 1976 | 1976 |
| NC : ADMINISTRATION | 9.50 | 10.50 | 10.53 | 2.56 | 2.54 | -0.85 | 0.15 | 0.15 | -1.97 | 1.50 | |
| NC : TECHNICAL | 81.00 | 123.50 | 52.59 | 21.86 | 29.93 | 36.89 | 1.31 | 1.77 | 35.34 | 17.66 | |
| NC : CLERICAL&SECRET | 39.50 | 50.00 | 26.58 | 10.66 | 12.11 | 13.56 | 0.64 | 0.72 | 12.27 | 7.14 | |
| NC : TEMPORARYASSIST | 1.00 | 2.50 | 150.00 | 0.27 | 0.61 | 124.27 | 0.02 | 0.04 | 121.73 | 0.36 | |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| C : ADMINISTRATION | 4.00 | 5.00 | 25.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.07 | 10.86 | 0.71 | |
| C : TEACHERS | 366.50 | 408.00 | 11.32 | 0.00 | 0.00 | 0.00 | 5.93 | 5.86 | -1.27 | 58.29 | |

BOARD 3-T

| CATEGORIES | FTE | | | NC/C*100 | | | NC/C:P*100 | | | NC/C:S | |
|----------------------|--------|--------|--------|----------|-------|--------|------------|------|--------|--------|------|
| | 1969 | 1976 | \$DIFF | 1969 | 1976 | \$DIFF | 1969 | 1976 | \$DIFF | 1976 | 1976 |
| NC : ADMINISTRATION | 17.50 | 21.50 | 22.86 | 2.11 | 2.47 | 16.87 | 0.10 | 0.13 | 31.18 | 0.48 | |
| NC : TECHNICAL | 167.00 | 221.50 | 32.69 | 20.13 | 25.41 | 26.23 | 0.97 | 1.38 | 41.69 | 4.92 | |
| NC : CLERICAL&SECRET | 48.00 | 53.50 | 32.29 | 5.79 | 7.28 | 25.84 | 0.28 | 0.39 | 41.26 | 1.41 | |
| NC : TEMPORARYASSIST | 16.50 | 28.50 | 72.73 | 1.99 | 3.27 | 64.31 | 0.10 | 0.18 | 84.43 | 0.63 | |
| NC : TRUSTEES | 17.00 | 18.00 | 5.88 | 2.05 | 2.06 | 0.72 | 0.10 | 0.11 | 13.06 | 0.40 | |
| C : ADMINISTRATION | 9.00 | 10.00 | 11.11 | 0.00 | 0.00 | 0.00 | 0.05 | 0.06 | 18.64 | 0.22 | |
| C : TEACHERS | 820.50 | 862.00 | 5.06 | 0.00 | 0.00 | 0.00 | 4.78 | 5.36 | 12.18 | 19.16 | |

BOARD 5-E

| CATEGORIES | FTE | | | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|--------|--------|--------|----------|-------|--------|------------|------|--------|--------|
| | 1971 | 1975 | %DIFF | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | 1976 |
| NC : ADMINISTRATION | 10.70 | 10.00 | -6.54 | 1.96 | 1.67 | -14.70 | 0.08 | 0.08 | 2.01 | 0.25 |
| NC : TECHNICAL | 88.10 | 89.40 | 1.48 | 16.11 | 14.92 | -7.38 | 0.67 | 0.74 | 10.76 | 2.23 |
| NC : CLERICAL&SECRET | 30.10 | 52.00 | 72.76 | 5.50 | 8.68 | 57.68 | 0.23 | 0.43 | 88.56 | 1.30 |
| NC : TEMPORARYASSIST | 1.50 | 1.00 | -33.33 | 0.27 | 0.17 | -39.15 | 0.01 | 0.01 | -27.23 | 0.02 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 4.00 | 4.40 | 10.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.04 | 20.06 | 0.11 |
| C : TEACHERS | 542.80 | 594.70 | 9.56 | 0.00 | 0.00 | 0.00 | 4.11 | 4.92 | 19.59 | 14.87 |

BOARD 5-S

| CATEGORIES | FTE | | | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|--------|--------|--------|----------|-------|--------|------------|------|--------|--------|
| | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | 1976 |
| NC : ADMINISTRATION | 11.80 | 8.10 | -31.36 | 2.78 | 2.01 | -27.66 | 0.17 | 0.12 | -29.86 | 1.35 |
| NC : TECHNICAL | 73.20 | 55.40 | -24.32 | 17.25 | 13.76 | -20.24 | 1.06 | 0.82 | -22.67 | 9.23 |
| NC : CLERICAL&SECRET | 43.30 | 43.40 | 0.23 | 10.20 | 10.78 | 5.63 | 0.63 | 0.64 | 2.42 | 7.23 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 4.00 | 2.50 | -35.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.04 | -33.56 | 0.43 |
| C : TEACHERS | 420.40 | 403.10 | -4.83 | 0.00 | 0.00 | 0.00 | 6.10 | 5.93 | -2.75 | 66.68 |

BOARD 5-T

| CATEGORIES | FTE | | | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|--------|--------|--------|----------|-------|--------|------------|------|--------|--------|
| | 1971 | 1975 | %DIFF | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | 1976 |
| NC : ADMINISTRATION | 22.50 | 18.10 | -19.56 | 2.32 | 1.81 | -21.97 | 0.11 | 0.10 | -14.20 | 0.39 |
| NC : TECHNICAL | 161.30 | 144.30 | -10.23 | 16.60 | 14.46 | -12.93 | 0.80 | 0.77 | -4.26 | 3.15 |
| NC : CLERICAL&SECRET | 73.40 | 95.40 | 29.97 | 7.56 | 9.53 | 26.07 | 0.37 | 0.51 | 38.62 | 2.07 |
| NC : TEMPORARYASSIST | 1.50 | 1.00 | -33.33 | 0.15 | 0.10 | -35.34 | 0.01 | 0.01 | -28.90 | 0.02 |
| NC : TRUSTEES | 16.00 | 17.00 | 6.25 | 1.65 | 1.70 | 3.06 | 0.08 | 0.09 | 13.32 | 0.37 |
| C : ADMINISTRATION | 8.00 | 7.00 | -12.50 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | -6.68 | 0.15 |
| C : TEACHERS | 963.40 | 994.50 | 3.23 | 0.00 | 0.00 | 0.00 | 4.79 | 5.28 | 10.10 | 21.62 |

BJARD 6-E

| CATEGORIES | FTE | | | NC:C*100 | | | NC/C:P*100 | | |
|----------------------|---------|---------|---------|----------|-------|---------|------------|------|---------|
| | 1969 | 1975 | %DIFF | 1969 | 1976 | %DIFF | 1969 | 1976 | %DIFF |
| NC : ADMINISTRATION | 1.00 | 0.00 | -100.00 | 0.09 | 0.00 | -100.00 | 0.00 | 0.00 | -100.00 |
| NC : TECHNICAL | 152.90 | 143.00 | -6.47 | 13.56 | 14.14 | 4.34 | 0.80 | 0.69 | 15.59 |
| NC : CLERICAL&SECRET | 30.80 | 55.00 | 79.74 | 2.71 | 5.44 | 100.52 | 0.12 | 0.27 | 122.14 |
| NC : TEMPORARYASSIST | 4.00 | 6.00 | 50.00 | 0.35 | 0.59 | 67.34 | 0.02 | 0.03 | 85.39 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : TEACHERS | 1127.90 | 1011.00 | -10.36 | 0.00 | 0.00 | 0.00 | 4.43 | 4.91 | 10.78 |

BJARD 6-S

| CATEGORIES | FTE | | | NC:C*100 | | | NC/C:P*100 | | |
|----------------------|--------|--------|---------|----------|-------|---------|------------|------|---------|
| | 1969 | 1975 | %DIFF | 1969 | 1976 | %DIFF | 1969 | 1976 | %DIFF |
| NC : ADMINISTRATION | 2.00 | 0.00 | -100.00 | 0.21 | 0.00 | -100.00 | 0.01 | 0.00 | -100.00 |
| NC : TECHNICAL | 187.90 | 145.00 | -22.03 | 19.39 | 16.76 | -13.57 | 1.29 | 1.02 | -20.79 |
| NC : CLERICAL&SECRET | 55.70 | 79.00 | 41.83 | 5.75 | 9.04 | 57.23 | 0.38 | 0.55 | 44.09 |
| NC : TEMPORARYASSIST | 4.00 | 1.00 | -75.00 | 0.41 | 0.11 | -72.29 | 0.03 | 0.01 | -74.60 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : TEACHERS | 968.90 | 874.00 | -9.79 | 0.00 | 0.00 | 0.00 | 6.64 | 6.09 | -8.36 |

BJARD 6-T

| CATEGORIES | FTE | | | NC:C*100 | | | NC/C:P*100 | | |
|----------------------|---------|---------|--------|----------|-------|--------|------------|------|--------|
| | 1969 | 1976 | %DIFF | 1969 | 1976 | %DIFF | 1969 | 1976 | %DIFF |
| NC : ADMINISTRATION | 33.00 | 23.00 | -30.30 | 1.55 | 1.20 | -22.49 | 0.08 | 0.07 | -20.16 |
| NC : TECHNICAL | 376.30 | 341.00 | -9.25 | 17.66 | 17.82 | 0.93 | 0.94 | 0.98 | 3.96 |
| NC : CLERICAL&SECRET | 135.30 | 186.00 | 37.47 | 6.35 | 9.71 | 52.88 | 0.34 | 0.53 | 57.48 |
| NC : TEMPORARYASSIST | 10.00 | 13.00 | 30.00 | 0.47 | 0.68 | 44.57 | 0.02 | 0.04 | 48.92 |
| NC : TRUSTEES | 33.00 | 29.00 | -12.12 | 1.55 | 1.51 | -2.27 | 0.08 | 0.08 | 0.67 |
| C : ADMINISTRATION | 34.00 | 31.00 | -8.82 | 0.00 | 0.00 | 0.00 | 0.08 | 0.09 | 4.45 |
| C : TEACHERS | 2096.80 | 1385.00 | -33.93 | 0.00 | 0.00 | 0.00 | 5.24 | 5.39 | 2.99 |

BOARD 7-E

| CATEGORIES | 1970 | FILE | 1970 | %DIFF | 1970 | NC:C*100 | 1976 | %DIFF | 1970 | NC/C:P*100 | 1976 | %DIFF | NC/C:S | 1976 |
|----------------------|--------|--------|--------|---------|-------|----------|---------|-------|------|------------|--------|---------|--------|-------|
| NC : ADMINISTRATION | 2.00 | 0.00 | 0.00 | -100.00 | 1.37 | 0.00 | -100.00 | 0.00 | 0.00 | 0.00 | 0.00 | -100.00 | 0.00 | 0.00 |
| NC : TECHNICAL | 16.00 | 15.00 | 0.00 | 0.00 | 10.96 | 13.85 | 26.41 | 0.56 | 0.56 | 0.77 | 37.00 | 1.45 | 1.45 | 1.45 |
| NC : CLERICAL&SECRET | 4.00 | 7.00 | 87.50 | 2.74 | 6.49 | 137.01 | 0.14 | 0.14 | 0.14 | 0.36 | 156.88 | 0.68 | 0.68 | 0.68 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 5.00 | 1.00 | -80.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 0.05 | -72.60 | 0.09 | 0.09 | 0.09 |
| C : TEACHERS | 141.00 | 114.50 | -18.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.93 | 5.48 | 11.25 | 10.41 | 10.41 | 10.41 |

BOARD 7-S

| CATEGORIES | 1970 | FILE | 1970 | %DIFF | 1970 | NC:C*100 | 1976 | %DIFF | 1970 | NC/C:P*100 | 1976 | %DIFF | NC/C:S | 1976 |
|----------------------|--------|--------|---------|-------|------|----------|-------|---------|------|------------|---------|-------|--------|-------|
| NC : ADMINISTRATION | 1.00 | 0.00 | -100.00 | 0.81 | 0.00 | -100.00 | 0.00 | -100.00 | 0.00 | 0.00 | -100.00 | 0.00 | 0.00 | 0.00 |
| NC : TECHNICAL | 13.00 | 15.00 | 15.38 | 10.52 | 8.09 | 13.45 | 27.91 | 0.77 | 0.77 | 0.90 | 15.94 | 7.50 | 7.50 | 7.50 |
| NC : CLERICAL&SECRET | 10.00 | 9.50 | -5.00 | 0.00 | 0.00 | 8.52 | 5.31 | 0.59 | 0.59 | 0.57 | -4.55 | 4.75 | 4.75 | 4.75 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : ADMINISTRATION | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C : TEACHERS | 123.60 | 111.00 | -9.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.34 | 6.66 | -9.36 | 55.75 | 55.75 | 55.75 |

BOARD 7-T

| CATEGORIES | 1970 | FILE | 1970 | %DIFF | 1970 | NC:C*100 | 1976 | %DIFF | 1970 | NC/C:P*100 | 1976 | %DIFF | NC/C:S | 1976 |
|----------------------|--------|--------|--------|-------|-------|----------|------|-------|------|------------|--------|-------|--------|-------|
| NC : ADMINISTRATION | 6.00 | 3.00 | -50.00 | 2.22 | 1.32 | -40.66 | 0.13 | 0.13 | 0.13 | 0.08 | -39.63 | 0.23 | 0.23 | 0.23 |
| NC : TECHNICAL | 29.00 | 38.00 | 31.03 | 10.72 | 16.67 | 55.52 | 0.64 | 0.64 | 0.64 | 1.01 | 58.22 | 2.92 | 2.92 | 2.92 |
| NC : CLERICAL&SECRET | 21.00 | 22.00 | 4.76 | 7.76 | 9.65 | 24.34 | 0.46 | 0.46 | 0.46 | 0.58 | 26.50 | 1.69 | 1.69 | 1.69 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 15.00 | 15.00 | 0.00 | 5.54 | 6.58 | 18.68 | 0.33 | 0.33 | 0.33 | 0.40 | 20.75 | 1.15 | 1.15 | 1.15 |
| C : ADMINISTRATION | 6.00 | 2.00 | -66.67 | 0.00 | 0.00 | 0.00 | 0.13 | 0.13 | 0.13 | 0.05 | -59.75 | 0.15 | 0.15 | 0.15 |
| C : TEACHERS | 264.60 | 225.00 | -14.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.62 | 6.00 | 3.13 | 17.38 | 17.38 | 17.38 |

BOARD 9

| CATEGORIES | 1969 | FIE | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|--------|-------|----------|--------|-------|------------|--------|------|--------|
| | | | 1976 | %DIFF | 1969 | 1976 | %DIFF | 1976 | |
| NC : ADMINISTRATION | 3.00 | 2.00 | 2.06 | -33.33 | 2.87 | 2.06 | -28.18 | 0.15 | 0.22 |
| NC : TECHNICAL | 12.00 | 14.00 | 14.43 | 16.67 | 11.48 | 14.43 | 25.69 | 0.58 | 1.56 |
| NC : CLERICAL&SECRET | 1.70 | 9.00 | 9.28 | 129.41 | 1.63 | 9.28 | 470.35 | 0.08 | 1.00 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 8.00 | 8.00 | 8.25 | 0.00 | 7.66 | 8.25 | 7.73 | 0.39 | 0.89 |
| C : ADMINISTRATION | 1.50 | 3.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.33 |
| C : TEACHERS | 103.00 | 94.00 | 0.00 | -8.74 | 0.00 | 0.00 | 0.00 | 4.99 | 10.44 |
| BOARD 10 | | | | | | | | | |

| CATEGORIES | 1971 | FIE | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|---------|---------|----------|-------|-------|------------|-------|------|--------|
| | | | 1976 | %DIFF | 1971 | 1976 | %DIFF | 1976 | |
| NC : ADMINISTRATION | 16.30 | 18.70 | 1.65 | 14.72 | 1.53 | 1.65 | 8.08 | 0.07 | 0.32 |
| NC : TECHNICAL | 160.70 | 184.30 | 16.27 | 14.69 | 15.06 | 16.27 | 8.05 | 0.67 | 3.18 |
| NC : CLERICAL&SECRET | 64.70 | 127.20 | 96.60 | 96.60 | 6.06 | 11.23 | 85.22 | 0.27 | 2.19 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 16.00 | 16.00 | 0.00 | 0.00 | 1.50 | 1.41 | -5.79 | 0.07 | 0.28 |
| C : ADMINISTRATION | 11.40 | 16.00 | 0.00 | 40.35 | 0.00 | 0.00 | 0.00 | 0.05 | 0.28 |
| C : TEACHERS | 1056.00 | 1117.00 | 5.78 | 5.78 | 0.00 | 0.00 | 0.00 | 4.41 | 19.26 |
| BOARD 11 | | | | | | | | | |

| CATEGORIES | 1969 | FIE | NC:C*100 | | | NC/C:P*100 | | | NC/C:S |
|----------------------|--------|---------|----------|--------|-------|------------|-------|------|--------|
| | | | 1976 | %DIFF | 1969 | 1976 | %DIFF | 1976 | |
| NC : ADMINISTRATION | 29.00 | 59.00 | 4.78 | 103.45 | 2.84 | 4.78 | 68.28 | 0.09 | 0.78 |
| NC : TECHNICAL | 147.10 | 214.00 | 17.35 | 45.48 | 14.42 | 17.35 | 20.33 | 0.48 | 2.82 |
| NC : CLERICAL&SECRET | 84.00 | 121.00 | 9.85 | 44.64 | 8.23 | 9.85 | 19.64 | 0.27 | 1.60 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 10.00 | 15.00 | 1.30 | 60.00 | 0.98 | 1.30 | 32.35 | 0.03 | 0.21 |
| C : ADMINISTRATION | 31.00 | 58.00 | 0.00 | 87.10 | 0.00 | 0.00 | 0.00 | 0.10 | 0.76 |
| C : TEACHERS | 989.30 | 1175.00 | 0.00 | 18.82 | 0.00 | 0.00 | 0.00 | 3.22 | 15.47 |

BJARD 12

| CATEGORIES | FTE | | NC/C*100 | | | NC/C*100 | | |
|----------------------|--------|--------|----------|-------|-------|----------|------|------|
| | 1974 | 1975 | \$DIFF | 1974 | 1976 | \$DIFF | 1974 | 1976 |
| NC : ADMINISTRATION | 2.00 | 3.00 | 50.00 | 0.90 | 1.13 | 26.63 | 0.04 | 0.05 |
| NC : TECHNICAL | 33.10 | 37.00 | 13.29 | 14.83 | 14.18 | -4.36 | 0.65 | 0.67 |
| NC : CLERICAL&SECRET | 18.00 | 20.00 | 11.11 | 8.06 | 7.56 | -6.20 | 0.35 | 0.36 |
| NC : TEMPORARYASSIST | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NC : TRUSTEES | 14.00 | 14.00 | 0.00 | 6.21 | 5.30 | -15.58 | 0.27 | 0.25 |
| C : ADMINISTRATION | 6.00 | 6.50 | 8.33 | 0.00 | 0.00 | 0.00 | 0.12 | 0.12 |
| C : TEACHERS | 217.20 | 257.90 | 18.74 | 0.00 | 0.00 | 0.00 | 4.24 | 4.59 |

NC/C:S

CATEGORIES

| CATEGORIES | FTE | | NC/C*100 | | | NC/C*100 | | |
|----------------------|----------|----------|----------|-------|-------|----------|------|------|
| | 1970 | 1975 | \$DIFF | 1970 | 1976 | \$DIFF | 1970 | 1976 |
| NC : ADMINISTRATION | 184.00 | 255.30 | 39.02 | 1.39 | 1.94 | 39.78 | 0.06 | 0.09 |
| NC : TECHNICAL | 2666.10 | 2692.90 | 1.01 | 20.11 | 20.42 | 1.56 | 0.84 | 0.94 |
| NC : CLERICAL&SECRET | 1212.30 | 1369.10 | 12.93 | 9.14 | 10.38 | 13.55 | 0.38 | 0.48 |
| NC : TEMPORARYASSIST | 28.00 | 42.50 | 51.79 | 0.21 | 0.32 | 52.62 | 0.01 | 0.01 |
| NC : TRUSTEES | 156.70 | 167.00 | 6.57 | 1.18 | 1.27 | 7.16 | 0.05 | 0.06 |
| C : ADMINISTRATION | 258.10 | 222.50 | -13.79 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 |
| C : TEACHERS | 13000.00 | 12963.10 | -0.28 | 0.00 | 0.00 | 0.00 | 4.07 | 4.51 |

TOTAL SAMPLE

| CATEGORIES | FTE | | NC/C*100 | | | NC/C*100 | | |
|----------------------|----------|----------|----------|-------|-------|----------|------|------|
| | 1970 | 1975 | \$DIFF | 1970 | 1976 | \$DIFF | 1970 | 1976 |
| NC : ADMINISTRATION | 184.00 | 255.30 | 39.02 | 1.39 | 1.94 | 39.78 | 0.06 | 0.09 |
| NC : TECHNICAL | 2666.10 | 2692.90 | 1.01 | 20.11 | 20.42 | 1.56 | 0.84 | 0.94 |
| NC : CLERICAL&SECRET | 1212.30 | 1369.10 | 12.93 | 9.14 | 10.38 | 13.55 | 0.38 | 0.48 |
| NC : TEMPORARYASSIST | 28.00 | 42.50 | 51.79 | 0.21 | 0.32 | 52.62 | 0.01 | 0.01 |
| NC : TRUSTEES | 156.70 | 167.00 | 6.57 | 1.18 | 1.27 | 7.16 | 0.05 | 0.06 |
| C : ADMINISTRATION | 258.10 | 222.50 | -13.79 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 |
| C : TEACHERS | 13000.00 | 12963.10 | -0.28 | 0.00 | 0.00 | 0.00 | 4.07 | 4.51 |

NC/C:S

APPENDIX H

Staffing Ratios Across Functional Categories

BJARD 1-E

| CATEGORIES | FTE=42 | | NC:C*100 | | NC:P*100 | | NC:S | |
|----------------------|---------|---------|----------|-------|----------|------|---------|------|
| | 1970 | 1975 | 1970 | 1976 | 1970 | 1976 | 1970 | 1976 |
| BUS AD4-MAN/SUP | 8.10 | 15.00 | | 0.48 | 0.01 | 0.02 | 121.19 | 0.10 |
| -OTHER | 100.80 | 69.00 | | 2.24 | 0.14 | 0.12 | -17.65 | 0.47 |
| -TOTAL | 108.90 | 84.00 | | 2.73 | 0.15 | 0.14 | -7.32 | 0.57 |
| CSEB-TOTAL | 16.20 | 9.00 | | 0.29 | 0.02 | 0.01 | -33.64 | 0.06 |
| ED.SER-AUDIO VISUAL | 38.00 | 38.00 | | 1.23 | 0.05 | 0.06 | 19.44 | 0.26 |
| -GUIDANCE&COUNSE | 4.00 | 1.00 | | 0.05 | 0.01 | 0.00 | -55.21 | 0.01 |
| -LIBRARY | 23.50 | 3.00 | | 0.11 | 0.03 | 0.01 | -82.21 | 0.02 |
| -PSYCHOLOGICAL | 30.60 | 28.00 | | 0.90 | 0.04 | 0.05 | 9.29 | 0.19 |
| -OTHER | 2.10 | 4.50 | | 0.15 | 0.00 | 0.01 | 155.95 | 0.03 |
| -TOTAL | 98.20 | 75.50 | | 2.44 | 0.14 | 0.13 | -8.17 | 0.51 |
| APP,HUTH&FOOD SER-AT | 5.50 | 6.50 | | 0.21 | 0.01 | 0.01 | 41.16 | 0.04 |
| -HEALTH | 21.40 | 0.00 | | 0.00 | 0.03 | 0.00 | -100.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 26.90 | 6.50 | | 0.21 | 0.04 | 0.01 | -71.14 | 0.04 |
| PUPP-TOTAL | 481.20 | 501.00 | | 16.16 | 0.67 | 0.83 | 24.36 | 3.41 |
| PLMT-TOTAL | 144.80 | 99.50 | | 3.21 | 0.20 | 0.17 | -17.93 | 0.68 |
| TRANS-ADMIN | 4.70 | 5.00 | | 0.18 | 0.01 | 0.01 | 39.77 | 0.04 |
| -HOMES-SCHOOL | 79.20 | 36.00 | | 1.16 | 0.11 | 0.06 | -45.71 | 0.24 |
| -OTHER | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 83.90 | 41.50 | | 1.34 | 0.12 | 0.07 | -40.92 | 0.28 |
| INSTR-BJARD OFFICE | 51.00 | 42.00 | | 1.35 | 0.07 | 0.07 | -1.64 | 0.29 |
| -SCHOOLS | 209.20 | 193.50 | | 6.24 | 0.29 | 0.32 | 10.48 | 1.32 |
| -TOTAL | 260.20 | 235.50 | | 7.60 | 0.36 | 0.39 | 8.10 | 1.60 |
| GRANDTOTAL | 1220.30 | 1053.00 | | 33.96 | 1.70 | 1.75 | 3.07 | 7.16 |

BJARD 1-S

| CATEGORIES | FILE-VI | | NC:C*100 | | NC:P*100 | | NC:S | |
|---------------------|---------|--------|----------|-------|----------|------|---------|-------|
| | 1970 | 1975 | 1970 | 1976 | 1970 | 1976 | 1970 | 1976 |
| BUS ADM-MAN/SUP | 4.90 | 15.00 | | | | | | |
| -OTHER | 61.20 | 71.00 | | 0.69 | 0.02 | 0.04 | 1/4.70 | 0.29 |
| -TOTAL | 66.10 | 86.00 | | 3.25 | 0.19 | 0.20 | 4.11 | 1.39 |
| CSEB-TOTAL | 9.80 | 18.00 | | 3.94 | 0.20 | 0.24 | 16.75 | 1.69 |
| ED.SER-AUDIO VISUAL | 34.60 | 56.00 | | 0.82 | 0.03 | 0.05 | 64.82 | 0.35 |
| -GUIDANCE&COUNSE | 3.00 | 1.00 | | 2.59 | 0.11 | 0.16 | 46.53 | 1.11 |
| -LIBRARY | 11.90 | 3.50 | | 0.07 | 0.01 | 0.00 | -55.13 | 0.03 |
| -PSYCHOLOGICAL | 21.40 | 28.00 | | 0.16 | 0.04 | 0.01 | -73.61 | 0.07 |
| -OTHER | 1.20 | 4.50 | | 1.28 | 0.07 | 0.08 | 17.41 | 0.55 |
| -TOTAL | 72.10 | 94.00 | | 0.21 | 0.00 | 0.01 | 236.51 | 0.09 |
| ATT,HUFR&JDD SER-AT | 3.50 | 6.00 | | 4.31 | 0.22 | 0.26 | 16.99 | 1.84 |
| -HEALTH | 26.40 | 0.00 | | 0.27 | 0.01 | 0.02 | 53.83 | 0.12 |
| -FDD SERVICES | 0.00 | 0.00 | | 0.00 | 0.08 | 0.00 | -100.00 | 0.00 |
| -TOTAL | 29.90 | 6.00 | | 0.27 | 0.09 | 0.02 | -81.99 | 0.12 |
| PLJP-TOTAL | 393.90 | 414.00 | | 18.96 | 1.21 | 1.14 | -5.69 | 8.12 |
| PUMF-TOTAL | 95.00 | 99.00 | | 4.56 | 0.29 | 0.27 | -6.01 | 1.95 |
| TRANS-ADMIN | 2.30 | 1.50 | | 0.07 | 0.01 | 0.00 | -41.48 | 0.03 |
| -HJMB-SCHOOL | 30.80 | 8.00 | | 0.37 | 0.09 | 0.02 | -76.69 | 0.16 |
| -OTHER | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 33.10 | 9.50 | | 0.44 | 0.10 | 0.03 | -74.25 | 0.19 |
| INSIR-BJARD OFFICE | 29.80 | 38.00 | | 1.74 | 0.09 | 0.10 | 14.43 | 0.75 |
| -SCHOOLS | 187.80 | 152.00 | | 6.96 | 0.58 | 0.42 | -27.37 | 2.98 |
| -TOTAL | 217.60 | 190.00 | | 8.70 | 0.67 | 0.52 | -21.65 | 3.73 |
| GRANDTOTAL | 917.50 | 917.00 | | 42.01 | 2.82 | 2.53 | -10.31 | 17.98 |

| CATEGORIES | FTE=VC | | | NC:C*100 | | | NC:P*100 | | | NC: |
|----------------------|---------|---------|---------|----------|-------|---------|----------|------|---------|------|
| | 1970 | 1975 | \$DIFF | 1970 | 1976 | \$DIFF | 1970 | 1976 | \$DIFF | |
| BUS ADM-MAN/SUP | 13.00 | 33.00 | 130.77 | 0.23 | 0.57 | 145.09 | 0.01 | 0.03 | 149.88 | 0.15 |
| | 162.00 | 140.50 | -13.27 | 2.89 | 2.66 | -7.89 | 0.16 | 0.15 | -6.09 | 0.71 |
| | 175.00 | 170.50 | -2.57 | 3.12 | 3.23 | 3.48 | 0.17 | 0.18 | 5.50 | 0.86 |
| USER-TOTAL | 26.00 | 27.00 | 3.85 | 0.46 | 0.51 | 10.29 | 0.02 | 0.03 | 12.45 | 0.14 |
| ED.SER-AUDIO VISUAL | 72.60 | 94.50 | 30.17 | 1.29 | 1.79 | 38.24 | 0.07 | 0.10 | 40.95 | 0.48 |
| -GUIDANCE/COUNSEL | 7.00 | 3.00 | -57.14 | 0.12 | 0.06 | -54.48 | 0.01 | 0.00 | -53.59 | 0.02 |
| -LIBRARY | 35.40 | 7.00 | -80.23 | 0.63 | 0.13 | -79.00 | 0.03 | 0.01 | -78.59 | 0.04 |
| -PSYCHOLOGICAL | 52.00 | 56.00 | 7.69 | 0.93 | 1.06 | 14.38 | 0.05 | 0.06 | 16.61 | 0.28 |
| -OTHER | 3.30 | 9.00 | 172.73 | 0.06 | 0.17 | 189.65 | 0.00 | 0.01 | 195.32 | 0.05 |
| -TOTAL | 170.30 | 169.50 | -0.47 | 3.03 | 3.21 | 5.71 | 0.16 | 0.18 | 7.77 | 0.86 |
| AFF.HLTHGFIJD SER-AT | 9.00 | 12.50 | 38.89 | 0.16 | 0.24 | 47.51 | 0.01 | 0.01 | 50.39 | 0.06 |
| -HEALTH | 47.80 | 3.00 | -100.00 | 0.85 | 0.00 | -100.00 | 0.05 | 0.00 | -100.00 | 0.00 |
| -FIJD SERVICES | 0.00 | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 56.80 | 12.50 | -77.99 | 1.01 | 0.24 | -76.63 | 0.05 | 0.01 | -76.17 | 0.06 |
| PLDP-TOTAL | 875.10 | 915.00 | 4.56 | 15.60 | 17.32 | 11.05 | 0.84 | 0.95 | 13.22 | 4.62 |
| PLMF-TOTAL | 239.80 | 199.00 | -17.01 | 4.27 | 3.77 | -11.86 | 0.23 | 0.21 | -10.14 | 1.01 |
| TRANS-ADMIN | 7.00 | 7.00 | 0.00 | 0.12 | 0.13 | 6.21 | 0.01 | 0.01 | 8.28 | 0.04 |
| -HOME-SCHOOL | 110.00 | 44.00 | -60.00 | 1.96 | 0.83 | -57.52 | 0.11 | 0.05 | -56.69 | 0.22 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 117.00 | 51.00 | -56.41 | 2.09 | 0.97 | -53.71 | 0.11 | 0.05 | -52.80 | 0.26 |
| INSTR-BJARD OFFICE | 80.80 | 80.00 | -0.99 | 1.44 | 1.51 | 5.15 | 0.08 | 0.08 | 7.21 | 0.40 |
| -SCHOOLS | 397.00 | 345.50 | -12.97 | 7.07 | 6.54 | -7.57 | 0.38 | 0.36 | -5.76 | 1.74 |
| -TOTAL | 477.80 | 425.50 | -10.95 | 8.51 | 8.05 | -5.42 | 0.46 | 0.44 | -3.57 | 2.15 |
| GRANDTOTAL | 2137.80 | 1970.00 | -77.85 | 38.10 | 37.29 | -2.13 | 2.05 | 2.04 | -0.22 | 9.95 |

NC:P#100

 $\text{NC:C}\#100$

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7
8
(a)
1
2

BJARD 2-E

| CATEGORIES | FTE-42 | | NCIC*100 | | NC:P*100 | | NCIS | |
|-----------------------|--------|--------|----------|-------|----------|------|---------|------|
| | 1969 | 1970 | 1969 | 1970 | 1969 | 1970 | 1969 | 1970 |
| BUS AD4-MAN/SUP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CER-SER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIO VISUAL | 0.00 | 10.00 | 0.00 | 1.59 | 0.00 | 0.08 | 0.00 | 0.22 |
| -ADVANCE&COUNSE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 0.00 | 2.50 | 0.00 | 0.41 | 0.00 | 0.02 | 0.00 | 0.06 |
| -OTHER | 0.00 | 19.00 | 0.00 | 3.16 | 0.00 | 0.15 | 0.00 | 0.43 |
| -TOTAL | 0.00 | 32.50 | 0.00 | 5.16 | 0.00 | 0.24 | 0.00 | 0.71 |
| ATT, HUTH&FOOD SER-AT | 0.50 | 0.50 | 0.09 | 0.08 | 0.00 | 0.00 | 19.10 | 0.01 |
| -HEALTH | 1.50 | 0.00 | 0.30 | 0.00 | -100.00 | 0.00 | -100.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 2.10 | 0.50 | 0.39 | 0.08 | -79.52 | 0.01 | -71.64 | 0.01 |
| PLJP-TOTAL | 72.00 | 80.50 | 13.28 | 12.78 | -3.81 | 0.45 | 33.16 | 1.75 |
| PLWF-TOTAL | 3.00 | 9.00 | 0.55 | 1.43 | 158.10 | 0.02 | 257.31 | 0.20 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HOME-SCHOOL | 0.10 | 2.20 | 0.02 | 0.35 | 1792.70 | 0.00 | 2520.24 | 0.05 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.10 | 2.20 | 0.02 | 0.35 | 1792.70 | 0.00 | 2520.24 | 0.05 |
| INSIR-BJARD OFFICE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -SCHOOLS | 19.00 | 33.00 | 3.51 | 5.24 | 49.42 | 0.12 | 106.86 | 0.72 |
| -TOTAL | 19.00 | 33.00 | 3.51 | 5.24 | 49.42 | 0.12 | 106.86 | 0.72 |
| GRANDTOTAL | 96.20 | 157.70 | 17.75 | 25.03 | 41.03 | 0.61 | 95.24 | 3.43 |

BOARD 2-S

| CATEGORIES | FTE-VC | | NC:C#100 | | NC:P#100 | | NC:S | |
|----------------------|--------|--------|----------|-------|----------|------|---------|-------|
| | 1969 | 1975 | 1969 | 1976 | 1969 | 1976 | 1976 | 1976 |
| BUS ADM-MAN/SUP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CSEB-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIJ VISUAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -GUIDANCE&COUNSE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.17 | 0.00 | 0.01 | 0.00 | 0.11 |
| -OTHER | 0.00 | 0.10 | 0.00 | 0.98 | 0.00 | 0.06 | 0.00 | 0.64 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 1.15 | 0.00 | 0.07 | 0.00 | 0.75 |
| ATT,HLTH&FOOD SER-AT | 0.10 | 0.50 | 0.02 | 0.10 | 0.00 | 0.01 | 341.62 | 0.06 |
| -HEALTH | 1.40 | 0.00 | 0.29 | 0.00 | -100.00 | 0.00 | -100.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 1.50 | 0.50 | 0.32 | 0.10 | -69.55 | 0.01 | -70.56 | 0.06 |
| PLUP-TOTAL | 87.00 | 96.00 | 18.32 | 18.46 | 0.80 | 1.04 | -2.54 | 12.00 |
| PLUP-TOTAL | 3.00 | 8.00 | 0.03 | 1.54 | 143.59 | 0.09 | 135.53 | 1.00 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HOME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| INSTR-BOARD OFFICE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -SCHOOLS | 43.00 | 45.00 | 9.05 | 8.85 | -2.28 | 0.50 | -5.51 | 5.75 |
| -TOTAL | 43.00 | 45.00 | 9.05 | 8.85 | -2.28 | 0.50 | -5.51 | 5.75 |
| GRANDTOTAL | 134.50 | 156.00 | 28.32 | 30.10 | 6.29 | 1.70 | 2.77 | 19.56 |

BOARD 2-F

| CATEGORIES | FISCAL | | | NC:C*100 | | | NC:P*100 | | | NC:S |
|----------------------|--------|--------|---------|----------|-------|---------|----------|------|---------|------|
| | 1969 | 1970 | 1971 | 1969 | 1970 | 1971 | 1969 | 1970 | 1971 | |
| 305 ADM-MAN/SUP | 6.00 | 5.00 | -16.67 | 0.58 | 0.43 | -25.89 | 0.03 | 0.02 | -11.24 | 0.09 |
| -OTHER | 10.00 | 25.00 | 105.00 | 0.97 | 1.77 | 82.32 | 0.04 | 0.09 | 118.35 | 0.38 |
| -TOTAL | 16.00 | 25.00 | 59.38 | 1.55 | 2.20 | 41.74 | 0.07 | 0.11 | 69.76 | 0.47 |
| CSER-TOTAL | 0.00 | 2.00 | 0.00 | 0.00 | 0.17 | 0.00 | 0.00 | 0.01 | 0.00 | 0.04 |
| ED.SER-AUDIO VISUAL | 0.00 | 13.00 | 0.00 | 0.00 | 0.86 | 0.00 | 0.00 | 0.04 | 0.00 | 0.19 |
| -GUIDANCE&COUNSEL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 0.00 | 3.50 | 0.00 | 0.00 | 0.30 | 0.00 | 0.00 | 0.02 | 0.00 | 0.06 |
| -OTHER | 0.00 | 25.00 | 0.00 | 0.00 | 2.16 | 0.00 | 0.00 | 0.11 | 0.00 | 0.46 |
| -TOTAL | 0.00 | 38.50 | 0.00 | 0.00 | 3.33 | 0.00 | 0.00 | 0.17 | 0.00 | 0.71 |
| ATT,HLTH&FOOD SER-AT | 0.60 | 1.00 | 66.67 | 0.06 | 0.09 | 48.23 | 0.00 | 0.00 | 77.52 | 0.02 |
| -HEALTH | 3.00 | 0.00 | -100.00 | 0.29 | 0.00 | -100.00 | 0.01 | 0.00 | -100.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 3.60 | 1.00 | -72.22 | 0.35 | 0.09 | -75.30 | 0.02 | 0.00 | -70.41 | 0.02 |
| PLDP-TOTAL | 160.50 | 180.00 | 12.46 | 15.60 | 15.60 | 0.02 | 0.67 | 0.80 | 19.79 | 3.34 |
| PUMF-TOTAL | 10.00 | 21.00 | 110.00 | 0.97 | 1.82 | 86.77 | 0.04 | 0.09 | 123.68 | 0.39 |
| TRANS-ADMIN | 1.50 | 2.50 | 66.67 | 0.15 | 0.22 | 48.23 | 0.01 | 0.01 | 77.52 | 0.05 |
| -HOME-SCHOOL | 0.10 | 2.20 | 2100.00 | 0.01 | 0.19 | 1856.61 | 0.00 | 0.01 | 2243.31 | 0.04 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 1.60 | 4.70 | 193.75 | 0.16 | 0.41 | 161.25 | 0.01 | 0.02 | 212.88 | 0.09 |
| INSTR-9-JARU OFFICE | 9.00 | 7.00 | -22.22 | 0.87 | 0.61 | -30.83 | 0.04 | 0.03 | -17.16 | 0.13 |
| -SCHOOLS | 62.00 | 73.00 | 27.42 | 6.03 | 6.83 | 13.32 | 0.26 | 0.35 | 35.72 | 1.46 |
| -TOTAL | 71.00 | 80.00 | 21.13 | 6.90 | 7.43 | 7.73 | 0.30 | 0.38 | 29.02 | 1.59 |
| GRANDTOTAL | 262.70 | 359.20 | 36.73 | 25.53 | 31.05 | 21.61 | 1.10 | 1.60 | 45.64 | 6.65 |

| CATEGORIES | FTE-VC | | NC:C*100 | | NC:P*100 | | NC:S |
|------------------------|--------|--------|----------|-------|----------|--------|------|
| | 1969 | 1975 | \$DIFF | 1969 | 1976 | \$DIFF | |
| BUS ADM-MAN/SUP | 4.50 | 5.50 | 22.22 | 0.98 | 1.20 | 22.76 | 0.14 |
| -OTHER | 4.50 | 7.50 | 66.67 | 0.98 | 1.64 | 67.40 | 0.20 |
| -TOTAL | 9.00 | 13.00 | 44.44 | 1.96 | 2.84 | 45.08 | 0.34 |
| CSER-TOTAL | 1.50 | 1.50 | 0.00 | 0.33 | 0.33 | 0.44 | 0.04 |
| ED.SER-AUDIO VISUAL | 1.50 | 3.00 | 100.00 | 0.33 | 0.66 | 100.88 | 0.08 |
| -GUIDANCE&COUNSEL | 1.00 | 2.00 | 100.00 | 0.22 | 0.44 | 100.88 | 0.05 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 1.50 | 4.00 | 166.67 | 0.33 | 0.88 | 167.83 | 0.11 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 4.00 | 9.00 | 125.00 | 0.87 | 1.97 | 125.98 | 0.24 |
| ATT,HIGHER EDUC SER-AT | 1.00 | 1.00 | 0.00 | 0.22 | 0.22 | 0.44 | 0.03 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 1.00 | 1.00 | 0.00 | 0.22 | 0.22 | 0.44 | 0.03 |
| PLJP-TOTAL | 80.50 | 88.00 | 9.32 | 17.54 | 19.26 | 9.80 | 2.32 |
| PLMT-TOTAL | 5.00 | 8.00 | 60.00 | 1.09 | 1.75 | 60.70 | 0.21 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HJME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| INSTR-BJARD OFFICE | 2.00 | 3.50 | 75.00 | 0.44 | 0.77 | 75.77 | 0.09 |
| -SCHOOLS | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 17.00 | 28.00 | 64.71 | 3.70 | 6.13 | 65.43 | 0.74 |
| GRANDTOTAL | 118.00 | 148.00 | 25.85 | 25.71 | 32.49 | 26.40 | 3.91 |

BJARD 3-5

| CATEGORIES | FTE-VC | | AC:C*100 | | | AC:P*100 | | | AC:S |
|----------------------|--------|--------|----------|-------|-------|----------|------|--------|-------|
| | 1969 | 1975 | \$DIFF | 1969 | 1976 | \$DIFF | 1976 | \$DIFF | 1976 |
| BUS ADM-MAN/SUP | 4.00 | 5.00 | 25.00 | 1.06 | 1.21 | 12.14 | 0.06 | 0.07 | 0.71 |
| -OTHER | 4.50 | 7.00 | 66.67 | 1.21 | 1.82 | 49.52 | 0.07 | 0.11 | 1.07 |
| -TOTAL | 8.50 | 12.00 | 41.06 | 2.29 | 3.03 | 31.93 | 0.14 | 0.18 | 1.79 |
| CSSR-TOTAL | 3.50 | 5.00 | 57.14 | 0.94 | 1.33 | 40.97 | 0.06 | 0.08 | 0.79 |
| ED.SER-AUDIT VISUAL | 1.00 | 3.00 | 200.00 | 0.27 | 0.73 | 169.13 | 0.02 | 0.04 | 0.43 |
| -GUIDANCE&COUNSE | 1.00 | 1.00 | 0.00 | 0.27 | 0.24 | -10.29 | 0.02 | 0.01 | 0.14 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 2.50 | 2.00 | -20.00 | 0.67 | 0.48 | -28.23 | 0.04 | 0.03 | 0.29 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 4.50 | 6.00 | 33.33 | 1.21 | 1.45 | 19.61 | 0.07 | 0.09 | 0.86 |
| AIR, RPT&FJJD SER-AI | 0.50 | 1.00 | 100.00 | 0.13 | 0.24 | 79.42 | 0.01 | 0.01 | 0.14 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FJJD SERVICES | 6.00 | 10.00 | 66.67 | 1.62 | 2.42 | 49.52 | 0.10 | 0.14 | 1.43 |
| -TOTAL | 6.50 | 11.00 | 69.23 | 1.75 | 2.66 | 51.82 | 0.11 | 0.16 | 1.57 |
| PLDP-TOTAL | 71.50 | 108.10 | 51.19 | 19.30 | 26.17 | 35.63 | 1.16 | 1.55 | 15.44 |
| PLMF-TOTAL | 3.00 | 4.00 | 33.33 | 0.81 | 0.97 | 19.61 | 0.05 | 0.06 | 0.57 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HOME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| INSTR-BOARD OFFICE | 2.00 | 3.00 | 75.00 | 0.54 | 0.85 | 56.99 | 0.03 | 0.05 | 0.50 |
| -SCHOOLS | 31.00 | 35.00 | 12.90 | 8.37 | 8.47 | 1.28 | 0.50 | 0.50 | 5.00 |
| -TOTAL | 33.50 | 39.00 | 17.91 | 9.04 | 9.56 | 5.78 | 0.54 | 0.57 | 5.64 |
| GRANDTOTAL | 131.00 | 185.50 | 42.44 | 35.36 | 45.18 | 27.78 | 2.12 | 2.68 | 26.66 |

BJARO 3-F

| CATEGORIES | FTE-VZ | | AC:CA100 | | AC:PA100 | | NC:3 |
|----------------------|--------|--------|----------|-------|----------|--------|------|
| | 1969 | 1975 | 1969 | 1976 | 1969 | 1976 | |
| BUS ADM-4AM/SUP | 8.50 | 10.50 | 23.53 | 1.02 | 17.51 | 31.90 | 0.23 |
| -JFIER | 9.00 | 15.00 | 66.67 | 1.08 | 58.54 | 77.96 | 0.33 |
| -TJIAL | 17.50 | 25.50 | 45.71 | 2.11 | 38.61 | 55.59 | 0.57 |
| CSEB-TJIAL | 5.00 | 7.00 | 40.00 | 0.60 | 33.18 | 49.49 | 0.16 |
| ED.SER-AUDIO VISUAL | 2.50 | 5.00 | 140.00 | 0.30 | 128.30 | 156.26 | 0.13 |
| -GUIDANCECOUNSE | 2.00 | 3.00 | 50.00 | 0.24 | 42.69 | 60.17 | 0.07 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 4.00 | 5.00 | 50.00 | 0.48 | 42.69 | 60.17 | 0.13 |
| -JFIER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TJIAL | 8.50 | 15.00 | 76.47 | 1.02 | 67.87 | 88.43 | 0.33 |
| ATT,HUT-HFJDD SER-AT | 1.50 | 2.00 | 33.33 | 0.18 | 26.83 | 42.37 | 0.04 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FJDD SERVICES | 6.00 | 10.00 | 66.67 | 0.72 | 58.54 | 77.96 | 0.22 |
| -TJIAL | 7.50 | 12.00 | 60.00 | 0.90 | 52.20 | 70.84 | 0.27 |
| PLDP-TJIAL | 152.00 | 196.10 | 29.01 | 18.32 | 22.73 | 37.76 | 4.36 |
| PLMT-TJIAL | 8.00 | 12.00 | 50.00 | 0.96 | 42.69 | 50.17 | 0.27 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HJME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -JFIER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TJIAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| INSTR-BJARO OFFICE | 4.00 | 7.00 | 75.00 | 0.48 | 66.47 | 86.86 | 0.16 |
| -SCHOOLS | 31.00 | 35.00 | 12.90 | 3.74 | 7.40 | 20.55 | 0.78 |
| -TJIAL | 50.50 | 67.50 | 33.66 | 6.09 | 27.15 | 42.72 | 1.50 |
| GRANDTJIAL | 249.00 | 345.10 | 34.58 | 30.02 | 28.02 | 43.70 | 7.45 |

| CATEGORIES | FIS-VC | | | NC:C+100 | | | NC:P*100 | | | NC:S |
|---------------------|--------|--------|---------|----------|-------|---------|----------|------|---------|------|
| | 1971 | 1975 | %DIFF | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | |
| BUS ADM-MAN/SUP | 3.00 | 2.50 | -16.67 | 0.55 | 0.42 | -23.94 | 0.02 | 0.02 | -9.04 | 0.06 |
| -OTHER | 9.00 | 9.50 | 5.56 | 1.65 | 1.59 | -3.66 | 0.07 | 0.08 | 15.21 | 0.24 |
| -TOTAL | 12.00 | 12.00 | 0.00 | 2.19 | 2.00 | -8.73 | 0.09 | 0.10 | 9.15 | 0.30 |
| CSSR-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIO VISUAL | 3.20 | 4.00 | 25.00 | 0.59 | 0.67 | 14.09 | 0.02 | 0.03 | 36.44 | 0.10 |
| -GUIDANCE&COUNSEL | 6.40 | 8.40 | 31.25 | 1.17 | 1.40 | 19.79 | 0.05 | 0.07 | 43.26 | 0.21 |
| -LIBRARY | 3.50 | 1.30 | -48.57 | 0.64 | 0.30 | -53.06 | 0.03 | 0.01 | -43.87 | 0.04 |
| -PSYCHOLOGICAL | 2.40 | 2.40 | 0.00 | 0.44 | 0.40 | -8.73 | 0.02 | 0.02 | 9.15 | 0.06 |
| -OTHER | 0.00 | 3.50 | 0.00 | 0.00 | 0.58 | 0.00 | 0.00 | 0.03 | 0.00 | 0.09 |
| -TOTAL | 15.50 | 20.10 | 29.68 | 2.83 | 3.36 | 18.36 | 0.12 | 0.17 | 41.54 | 0.50 |
| ATT.HIGH&JUN SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PLDP-TOTAL | 75.80 | 67.10 | -11.48 | 13.86 | 11.20 | -19.21 | 0.57 | 0.55 | -3.38 | 1.68 |
| PLAT-TOTAL | 8.90 | 14.70 | 65.17 | 1.63 | 2.45 | 50.75 | 0.07 | 0.12 | 80.28 | 0.37 |
| TRANS-ADMIN | 0.70 | 0.70 | 0.00 | 0.13 | 0.12 | -8.73 | 0.01 | 0.01 | 9.15 | 0.02 |
| -HOME-SCHOOL | 0.50 | 0.00 | -100.00 | 0.09 | 0.00 | -100.00 | 0.00 | 0.00 | -100.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 1.20 | 0.70 | -41.67 | 0.22 | 0.12 | -46.76 | 0.01 | 0.01 | -36.33 | 0.02 |
| INSTR-BJARD OFFICE | 2.50 | 2.50 | 4.00 | 0.46 | 0.43 | -5.08 | 0.02 | 0.02 | 13.52 | 0.06 |
| -SCHOOLS | 14.50 | 35.20 | 142.76 | 2.65 | 5.88 | 121.57 | 0.11 | 0.29 | 164.97 | 0.88 |
| -TOTAL | 17.00 | 37.70 | 122.35 | 3.11 | 6.31 | 102.94 | 0.13 | 0.31 | 142.70 | 0.94 |
| GRANDTOTAL | 130.40 | 152.40 | 16.87 | 23.85 | 25.44 | 6.67 | 0.99 | 1.26 | 27.56 | 3.81 |

BJARD 5-S

| CATEGORIES | FTE-FC | | NC:C*100 | | NC:P*100 | | NC:S |
|----------------------|--------|--------|----------|-------|----------|---------|-------|
| | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | |
| BUS ADM-MAN/SUP | 3.00 | 2.50 | -16.67 | 0.71 | 0.62 | -12.18 | 0.42 |
| -OTHER | 7.00 | 8.00 | 14.29 | 1.65 | 1.99 | 20.44 | 1.33 |
| -TOTAL | 10.00 | 10.50 | 5.00 | 2.36 | 2.61 | 10.66 | 1.75 |
| CSER-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIO VISUAL | 0.80 | 1.00 | 25.00 | 0.19 | 0.25 | 31.74 | 0.17 |
| -GUIDANCE&COUNSE | 0.60 | 0.20 | -66.67 | 0.14 | 0.05 | -64.87 | 0.03 |
| -LIBRARY | 0.00 | 4.30 | 0.00 | 0.00 | 1.19 | 0.00 | 0.80 |
| -PSYCHOLOGICAL | 0.60 | 0.50 | 0.00 | 0.14 | 0.15 | 5.39 | 0.10 |
| -OTHER | 0.00 | 0.40 | 0.00 | 0.00 | 0.10 | 0.00 | 0.07 |
| -TOTAL | 2.00 | 7.00 | 250.00 | 0.47 | 1.74 | 268.86 | 1.17 |
| ATT,HUTH&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 1.50 | 2.20 | 46.67 | 0.35 | 0.55 | 54.57 | 0.37 |
| -TOTAL | 1.50 | 2.20 | 46.67 | 0.35 | 0.55 | 54.57 | 0.37 |
| PLDP-TOTAL | 54.70 | 46.30 | -15.36 | 12.89 | 11.50 | -10.80 | 7.72 |
| PLMT-TOTAL | 12.90 | 5.30 | -51.16 | 3.04 | 1.56 | -48.53 | 1.05 |
| TRANS-ADMIN | 0.70 | 0.70 | 0.00 | 0.16 | 0.17 | 5.39 | 0.12 |
| -HOME-SCHOOL | 11.50 | 0.00 | -100.00 | 2.71 | 0.00 | -100.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 12.20 | 0.70 | -94.26 | 2.87 | 0.17 | -93.95 | 0.12 |
| INSTR-BOARD OFFICE | 2.50 | 2.40 | -4.00 | 0.59 | 0.60 | 1.17 | 0.40 |
| -SCHOOLS | 32.50 | 31.50 | -3.08 | 7.66 | 7.82 | 2.15 | 5.25 |
| -TOTAL | 35.00 | 33.90 | -3.14 | 8.25 | 8.42 | 2.08 | 5.65 |
| GRANDTOTAL | 128.30 | 106.30 | -15.68 | 30.23 | 26.55 | -12.19 | 17.82 |

BOARD 5-I

| CATEGORIES | FTE-VC | | | NC:C*100 | | | NC:P*100 | | | NC:S | |
|----------------------|--------|--------|---------|----------|-------|---------|----------|------|---------|------|------|
| | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | 1971 | 1976 | %DIFF | 1976 | 1976 |
| BUS ADM-MAN/SUP | 6.00 | 5.00 | -16.67 | 0.62 | 0.50 | -19.17 | 0.03 | 0.03 | -11.12 | 0.11 | |
| -OTHER | 16.00 | 17.50 | 9.38 | 1.65 | 1.75 | 6.09 | 0.08 | 0.09 | 16.65 | 0.38 | |
| -TOTAL | 22.00 | 22.50 | 2.27 | 2.26 | 2.25 | -0.80 | 0.11 | 0.12 | 9.08 | 0.49 | |
| CSER-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ED.SER-AUDIO VISUAL | 4.00 | 5.00 | 25.00 | 0.41 | 0.50 | 21.24 | 0.02 | 0.03 | 33.32 | 0.11 | |
| -GUIDANCE&COUNSEL | 7.00 | 8.50 | 22.86 | 0.72 | 0.86 | 19.16 | 0.03 | 0.05 | 31.03 | 0.19 | |
| -LIBRARY | 3.50 | 6.50 | 88.57 | 0.36 | 0.66 | 82.90 | 0.02 | 0.04 | 101.12 | 0.14 | |
| -PSYCHOLOGICAL | 3.00 | 3.00 | 0.00 | 0.31 | 0.30 | -3.01 | 0.01 | 0.02 | 6.65 | 0.07 | |
| -OTHER | 0.00 | 3.00 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 | 0.02 | 0.00 | 0.08 | |
| -TOTAL | 17.50 | 27.10 | 54.86 | 1.80 | 2.71 | 50.20 | 0.09 | 0.14 | 65.16 | 0.59 | |
| ATT,HLTH&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -FOOD SERVICES | 1.50 | 2.20 | 46.67 | 0.15 | 0.22 | 42.26 | 0.01 | 0.01 | 56.43 | 0.05 | |
| -TOTAL | 1.50 | 2.20 | 46.67 | 0.15 | 0.22 | 42.26 | 0.01 | 0.01 | 56.43 | 0.05 | |
| PLDP-TOTAL | 130.50 | 113.40 | -13.10 | 13.43 | 11.32 | -15.72 | 0.65 | 0.60 | -7.32 | 2.47 | |
| PLMT-TOTAL | 21.80 | 21.00 | -3.67 | 2.24 | 2.10 | -6.56 | 0.11 | 0.11 | 2.74 | 0.46 | |
| TRANS-ADMIN | 1.40 | 1.40 | 0.00 | 0.14 | 0.14 | -3.01 | 0.01 | 0.01 | 6.65 | 0.03 | |
| -HOME-SCHOOL | 12.00 | 0.00 | -100.00 | 1.24 | 0.00 | -100.00 | 0.06 | 0.00 | -100.00 | 0.00 | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 13.40 | 1.40 | -89.55 | 1.38 | 0.14 | -89.87 | 0.07 | 0.01 | -88.80 | 0.03 | |
| INSR-BOARD OFFICE | 5.00 | 5.00 | 0.00 | 0.51 | 0.50 | -3.01 | 0.02 | 0.03 | 6.65 | 0.11 | |
| -SCHOOLS | 47.00 | 66.70 | 41.91 | 4.84 | 6.66 | 37.65 | 0.23 | 0.35 | 51.36 | 1.45 | |
| -TOTAL | 52.00 | 71.70 | 37.88 | 5.35 | 7.16 | 33.74 | 0.26 | 0.38 | 47.06 | 1.56 | |
| GRANDTOTAL | 258.70 | 259.30 | 0.23 | 26.63 | 25.89 | -2.78 | 1.29 | 1.38 | 6.90 | 5.64 | |

BJARD 5-E

| CATEGORIES | FTE-VC | | NC:C*100 | | NC:P*100 | | NC:S | |
|----------------------|--------|--------|----------|---------|----------|---------|------|------|
| | 1969 | 1976 | 1969 | %DIFF | 1976 | %DIFF | 1969 | 1976 |
| BUS ADM-MAN/SUP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CSEA-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIO VISUAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -GUIDANCE&COUNSE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -LIBRARY | 1.00 | 0.00 | 0.09 | -100.00 | 0.00 | -100.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 1.00 | 0.00 | 0.09 | -100.00 | 0.00 | -100.00 | 0.00 | 0.00 |
| ATT,HLTH&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PLDP-TOTAL | 146.70 | 146.00 | 13.01 | -0.48 | 14.44 | 11.03 | 0.58 | 0.71 |
| PLMF-TOTAL | 2.00 | 0.00 | 0.18 | -100.00 | 0.00 | -100.00 | 0.01 | 0.00 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HOME-SCHU L | 8.20 | 3.00 | 0.73 | -63.41 | 0.30 | -59.18 | 0.03 | 0.01 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 8.20 | 3.00 | 0.73 | -63.41 | 0.30 | -59.18 | 0.03 | 0.01 |
| INSIR-BOARD OFFICE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -SCHOOLS | 30.60 | 55.00 | 2.71 | 79.74 | 5.44 | 100.52 | 0.12 | 0.27 |
| -TOTAL | 30.60 | 55.00 | 2.71 | 79.74 | 5.44 | 100.52 | 0.12 | 0.27 |
| GRANDTOTAL | 188.50 | 204.00 | 16.71 | 8.22 | 20.18 | 20.74 | 0.74 | 0.99 |

BOARD 6-S

| CATEGORIES | FTE-VC | | | NC:C#100 | | | NC:P#100 | | | NC:S | |
|----------------------|--------|--------|---------|----------|-------|---------|----------|------|---------|-------|------|
| | 1969 | 1970 | %DIFF | 1969 | 1970 | %DIFF | 1969 | 1970 | %DIFF | 1976 | 1976 |
| BUS ADM-MAN/SUP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CSER-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIO VISUAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -GUIDANCE&COUNSE | 0.00 | 16.00 | 0.00 | 0.00 | 1.83 | 0.00 | 0.00 | 0.11 | 0.00 | 1.00 | 0.00 |
| -LIBRARY | 10.00 | 10.00 | 0.00 | 1.03 | 1.14 | 10.86 | 0.07 | 0.07 | 1.59 | 0.63 | 0.00 |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 10.00 | 26.00 | 160.00 | 1.03 | 2.97 | 188.23 | 0.07 | 0.18 | 164.15 | 1.63 | 0.00 |
| ATT,HLTH&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 18.00 | 0.00 | -100.00 | 1.86 | 0.00 | -100.00 | 0.12 | 0.00 | -100.00 | 0.00 | 0.00 |
| -TOTAL | 18.00 | 0.00 | -100.00 | 1.86 | 0.00 | -100.00 | 0.12 | 0.00 | -100.00 | 0.00 | 0.00 |
| PLDP-TOTAL | 149.60 | 134.50 | -10.09 | 15.44 | 15.39 | -0.33 | 1.03 | 0.94 | -8.66 | 8.41 | 0.00 |
| PUM-TOTAL | 2.00 | 0.00 | -100.00 | 0.21 | 0.00 | -100.00 | 0.01 | 0.00 | -100.00 | 0.00 | 0.00 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HOME-SCHOOL | 15.30 | 3.00 | -80.39 | 1.58 | 0.34 | -78.26 | 0.10 | 0.02 | -80.08 | 0.19 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 15.30 | 3.00 | -80.39 | 1.58 | 0.34 | -78.26 | 0.10 | 0.02 | -80.08 | 0.19 | 0.00 |
| INSTR-BOARD OFFICE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -SCHOOLS | 54.70 | 63.00 | 15.17 | 5.65 | 7.21 | 27.68 | 0.37 | 0.44 | 17.01 | 3.94 | 0.00 |
| -TOTAL | 54.70 | 63.00 | 15.17 | 5.65 | 7.21 | 27.68 | 0.37 | 0.44 | 17.01 | 3.94 | 0.00 |
| GRANDTOTAL | 249.60 | 226.50 | -9.25 | 25.76 | 25.92 | 0.60 | 1.71 | 1.58 | -7.81 | 14.16 | 0.00 |

BOARD 5-T

| CATEGORIES | FTE-VC | | | NC:C*100 | | | NC:P*100 | | | NC:S | | |
|----------------------|--------|--------|---------|----------|-------|---------|----------|------|---------|------|------|--|
| | 1969 | 1975 | %DIFF | 1969 | 1976 | %DIFF | 1969 | 1976 | %DIFF | 1976 | 1976 | |
| BUS ADM-MAN/SUP | 14.00 | 13.00 | -7.14 | 0.66 | 0.68 | 3.27 | 0.03 | 0.04 | 6.37 | 0.13 | | |
| -OTHER | 32.00 | 25.00 | -21.88 | 1.50 | 1.30 | -13.12 | 0.08 | 0.07 | -10.50 | 0.25 | | |
| -TOTAL | 46.00 | 38.00 | -17.39 | 2.16 | 1.98 | -8.13 | 0.11 | 0.11 | -5.37 | 0.38 | | |
| CSEB-TOTAL | 0.00 | 3.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.00 | 0.01 | 0.00 | 0.03 | | |
| ED.SER-AUDIO VISUAL | 8.00 | 10.00 | 25.00 | 0.38 | 0.52 | 39.01 | 0.02 | 0.03 | 43.20 | 0.10 | | |
| -GUIDANCE&COUNSEL | 5.00 | 16.00 | 220.00 | 0.23 | 0.84 | 255.87 | 0.01 | 0.05 | 266.58 | 0.16 | | |
| -LIBRARY | 13.00 | 12.00 | -7.69 | 0.61 | 0.63 | 2.66 | 0.03 | 0.03 | 5.75 | 0.12 | | |
| -PSYCHOLOGICAL | 3.00 | 7.00 | 133.33 | 0.14 | 0.37 | 159.49 | 0.01 | 0.02 | 167.30 | 0.07 | | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| -TOTAL | 29.00 | 45.00 | 55.17 | 1.36 | 2.35 | 72.57 | 0.07 | 0.13 | 77.76 | 0.45 | | |
| ATT,HLTH&FOOD SER-AT | 2.50 | 2.50 | 0.00 | 0.12 | 0.13 | 11.21 | 0.01 | 0.01 | 14.56 | 0.03 | | |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| -FOOD SERVICES | 18.00 | 0.00 | -100.00 | 0.84 | 0.00 | -100.00 | 0.04 | 0.00 | -100.00 | 0.00 | | |
| -TOTAL | 20.50 | 2.50 | -87.80 | 0.96 | 0.13 | -86.44 | 0.05 | 0.01 | -86.03 | 0.03 | | |
| PLDP-TOTAL | 301.80 | 284.50 | -5.73 | 14.16 | 14.85 | 4.84 | 0.75 | 0.81 | 7.99 | 2.87 | | |
| PLMT-TOTAL | 37.50 | 46.00 | 22.67 | 1.76 | 2.40 | 36.42 | 0.09 | 0.13 | 40.52 | 0.46 | | |
| TRANS-ADMIN | 1.00 | 2.50 | 150.00 | 0.05 | 0.13 | 178.03 | 0.00 | 0.01 | 186.39 | 0.03 | | |
| -HOME-SCHOOL | 23.50 | 6.00 | -74.47 | 1.10 | 0.31 | -71.61 | 0.06 | 0.02 | -70.75 | 0.06 | | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| -TOTAL | 24.50 | 8.50 | -65.31 | 1.15 | 0.44 | -61.42 | 0.06 | 0.02 | -60.26 | 0.09 | | |
| INSTR-BOARD OFFICE | 9.00 | 16.00 | 77.78 | 0.42 | 0.84 | 97.71 | 0.02 | 0.05 | 103.66 | 0.16 | | |
| -SCHOOLS | 85.30 | 118.00 | 38.34 | 4.00 | 6.16 | 53.84 | 0.21 | 0.34 | 58.47 | 1.19 | | |
| -TOTAL | 95.30 | 136.00 | 42.71 | 4.47 | 7.10 | 58.71 | 0.24 | 0.39 | 63.48 | 1.37 | | |
| GRANDTOTAL | 554.60 | 563.50 | 1.60 | 26.03 | 29.41 | 13.00 | 1.38 | 1.61 | 16.40 | 5.69 | | |

BOARD 7-E

| CATEGORIES | FTE-VC | | | NC:C*100 | | | NC:P*100 | | | NC:S | |
|----------------------|--------|-------|---------|----------|-------|---------|----------|------|---------|------|------|
| | 1970 | 1976 | \$DIFF | 1970 | 1976 | \$DIFF | 1970 | 1976 | \$DIFF | 1976 | 1976 |
| BUS ADM-MAN/SUP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| USER-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED-SER-AUDIO VISUAL | 1.00 | 1.00 | 0.00 | 0.68 | 0.87 | 26.41 | 0.03 | 0.05 | 37.00 | 0.09 | 0.09 |
| -GUIDANCE&COUNSEL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -LIBRARY | 0.00 | 3.00 | 0.00 | 0.00 | 2.60 | 0.00 | 0.00 | 0.14 | 0.00 | 0.27 | 0.27 |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 1.00 | 4.00 | 300.00 | 0.68 | 3.46 | 405.63 | 0.03 | 0.19 | 448.01 | 0.36 | 0.36 |
| APP,HLTH&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PLJP-TOTAL | 14.00 | 15.00 | 7.14 | 9.59 | 12.99 | 35.44 | 0.49 | 0.72 | 46.79 | 1.36 | 1.36 |
| PUMI-TOTAL | 3.00 | 0.00 | -100.00 | 2.05 | 0.00 | -100.00 | 0.10 | 0.00 | -100.00 | 0.00 | 0.00 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HJ4E-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| INSTR-BOARD OFFICE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -SABOULS | 4.00 | 4.00 | 12.50 | 2.74 | 3.90 | 42.21 | 0.14 | 0.22 | 54.13 | 0.41 | 0.41 |
| -TOTAL | 4.00 | 4.00 | 12.50 | 2.74 | 3.90 | 42.21 | 0.14 | 0.22 | 54.13 | 0.41 | 0.41 |
| GRANDTOTAL | 22.00 | 23.50 | 6.82 | 15.07 | 20.35 | 35.03 | 0.71 | 1.12 | 46.34 | 2.14 | 2.14 |

BOARD 7-S

| CATEGORIES | FTE-VC | | NC:C#100 | | | NC:P#100 | | | NC:S | |
|----------------------|--------|-------|----------|-------|-------|----------|------|------|---------|-------|
| | 1970 | 1975 | \$DIFF | 1970 | 1976 | \$DIFF | 1970 | 1976 | \$DIFF | 1976 |
| BUS ADM-MAN/SUP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CSER-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIO VISUAL | 0.00 | 1.00 | 0.00 | 0.00 | 0.90 | 0.00 | 0.00 | 0.06 | 0.00 | 0.50 |
| -GUIDANCE&COUNSE | 0.00 | 1.00 | 0.00 | 0.00 | 0.90 | 0.00 | 0.00 | 0.06 | 0.00 | 0.50 |
| -LIBRARY | 2.00 | 2.00 | 0.00 | 1.62 | 1.79 | 10.85 | 0.12 | 0.12 | 0.48 | 1.00 |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 2.00 | 4.00 | 100.00 | 1.62 | 3.59 | 121.70 | 0.12 | 0.24 | 100.96 | 2.00 |
| ATT,HLTH&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PLJJP-TOTAL | 12.00 | 14.00 | 16.67 | 9.71 | 12.56 | 29.33 | 0.71 | 0.84 | 17.22 | 7.00 |
| PLUAT-TOTAL | 2.00 | 0.00 | -100.00 | 1.62 | 0.00 | -100.00 | 0.12 | 0.00 | -100.00 | 0.00 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HOME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| INSTR-BOARD OFFICE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -SCHOOLS | 8.00 | 6.00 | -18.75 | 6.47 | 5.83 | -9.93 | 0.48 | 0.39 | -18.36 | 3.25 |
| -TOTAL | 8.00 | 6.00 | -18.75 | 6.47 | 5.83 | -9.93 | 0.48 | 0.39 | -18.36 | 3.25 |
| GRANDTOTAL | 24.00 | 24.00 | 2.08 | 19.42 | 21.97 | 13.16 | 1.43 | 1.45 | 2.57 | 12.25 |

BOARD 7-I

| CATEGORIES | FTE-12. | | | NC:C#100 | | | NC:P#100 | | | NC:S | |
|---------------------|---------|-------|---------|----------|-------|---------|----------|------|---------|------|------|
| | 1970 | 1976 | %DIFF | 1970 | 1976 | %DIFF | 1970 | 1976 | %DIFF | 1976 | 1976 |
| BUS ADM-MAN/SUP | 2.00 | 2.00 | 0.00 | 0.74 | 0.88 | 18.68 | 0.04 | 0.05 | 20.75 | 0.15 | |
| -OTHER | 7.00 | 5.00 | -28.57 | 2.59 | 2.19 | -15.23 | 0.15 | 0.13 | -13.75 | 0.38 | |
| -TOTAL | 9.00 | 7.00 | -22.22 | 3.33 | 3.07 | -7.69 | 0.20 | 0.19 | -6.08 | 0.54 | |
| CSER-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ED-SER-AUDIO VISUAL | 1.00 | 2.00 | 100.00 | 0.37 | 0.88 | 137.37 | 0.02 | 0.05 | 141.50 | 0.15 | |
| -GUIDANCE&COUNSE | 0.00 | 1.00 | 0.00 | 0.00 | 0.44 | 0.00 | 0.00 | 0.03 | 0.00 | 0.08 | |
| -LIBRARY | 2.00 | 5.00 | 150.00 | 0.74 | 2.19 | 196.71 | 0.04 | 0.13 | 201.87 | 0.38 | |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 3.00 | 8.00 | 166.67 | 1.11 | 3.51 | 216.49 | 0.07 | 0.21 | 222.00 | 0.62 | |
| ATT,HLTH&FDD SER-AT | 1.00 | 0.00 | -100.00 | 0.37 | 0.00 | -100.00 | 0.02 | 0.00 | -100.00 | 0.00 | |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -FDD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 1.00 | 0.00 | -100.00 | 0.37 | 0.00 | -100.00 | 0.02 | 0.00 | -100.00 | 0.00 | |
| PLDP-TOTAL | 26.00 | 23.00 | 11.54 | 9.61 | 12.72 | 32.38 | 0.57 | 0.77 | 34.68 | 2.23 | |
| PLMT-TOTAL | 5.00 | 8.00 | 60.00 | 1.85 | 3.51 | 89.89 | 0.11 | 0.21 | 93.20 | 0.62 | |
| TRAYS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -HOME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| INSTR-BUARD OFFICE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -SCHOOLS | 12.00 | 11.00 | -8.33 | 4.43 | 4.82 | 8.79 | 0.26 | 0.29 | 10.69 | 0.85 | |
| -TOTAL | 12.00 | 11.00 | -8.33 | 4.43 | 4.82 | 8.79 | 0.26 | 0.29 | 10.69 | 0.85 | |
| GRANDTOTAL | 56.00 | 63.00 | 12.50 | 20.69 | 27.63 | 33.52 | 1.23 | 1.67 | 35.84 | 4.85 | |

| CATEGORIES | FTE-VC | | NC:C*100 | | NC:P*100 | | NC:S |
|----------------------|--------|-------|----------|-------|----------|---------|------|
| | 1969 | 1975 | DIFF | 1969 | 1976 | DIFF | |
| BUS ADM-MAN/SUP | 3.00 | 2.00 | -33.33 | 2.87 | 2.06 | -28.18 | 0.15 |
| -OTHER | 1.50 | 2.00 | 33.33 | 1.44 | 2.06 | 43.64 | 0.07 |
| -TOTAL | 4.50 | 4.00 | -11.11 | 4.31 | 4.12 | -4.24 | 0.22 |
| CSER-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ED.SER-AUDIO VISUAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -GUIDANCE&COUNSEL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ATT,HUHF&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PLJP-TOTAL | 11.00 | 12.00 | 9.09 | 10.53 | 12.37 | 17.53 | 0.53 |
| PLMT-TOTAL | 1.00 | 2.00 | 100.00 | 0.96 | 2.06 | 115.46 | 0.05 |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -HOME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| INSIR-BJARD OFFICE | 0.20 | 2.00 | 900.00 | 0.19 | 2.06 | 977.32 | 0.01 |
| -SCHOOLS | 0.00 | 5.00 | 0.00 | 0.00 | 5.15 | 0.00 | 0.00 |
| -TOTAL | 0.20 | 7.00 | 3400.00 | 0.19 | 7.22 | 3670.62 | 0.01 |
| GRANDTOTAL | 16.70 | 25.00 | 49.70 | 15.98 | 25.77 | 61.28 | 0.81 |

BOARD 10

| CATEGORIES | FTE-VC | | | NC:C*100 | | | NC:P*100 | | | NC:S | |
|----------------------|--------|--------|--------|----------|-------|--------|----------|------|--------|------|------|
| | 1971 | 1975 | \$DIFF | 1971 | 1976 | \$DIFF | 1971 | 1976 | \$DIFF | 1976 | 1976 |
| BUS ADM-MAN/SUP | 8.50 | 8.70 | 2.35 | 0.80 | 0.77 | -3.57 | 0.04 | 0.04 | 9.72 | 0.15 | |
| -OTHER | 17.60 | 28.00 | 59.09 | 1.55 | 2.47 | 49.88 | 0.07 | 0.13 | 70.55 | 0.48 | |
| -TOTAL | 26.10 | 36.70 | 40.61 | 2.45 | 3.24 | 32.47 | 0.11 | 0.16 | 50.74 | 0.63 | |
| CSEB-TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ED.SER-AUDIU VISUAL | 1.50 | 2.00 | 33.33 | 0.14 | 0.18 | 25.61 | 0.01 | 0.01 | 42.93 | 0.03 | |
| -GUIDANCE&COUNSEL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -LIBRARY | 1.40 | 2.00 | 42.86 | 0.13 | 0.18 | 34.59 | 0.01 | 0.01 | 53.14 | 0.03 | |
| -PSYCHOLOGICAL | 1.80 | 4.00 | 122.22 | 0.17 | 0.35 | 109.36 | 0.01 | 0.02 | 138.22 | 0.07 | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 4.70 | 8.00 | 70.21 | 0.44 | 0.71 | 60.36 | 0.02 | 0.04 | 82.47 | 0.14 | |
| ATT,HLTH&FOOD SER-AT | 3.00 | 3.00 | 0.00 | 0.28 | 0.26 | -5.79 | 0.01 | 0.01 | 7.20 | 0.05 | |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 3.00 | 3.00 | 0.00 | 0.28 | 0.26 | -5.79 | 0.01 | 0.01 | 7.20 | 0.05 | |
| PLJJP-TOTAL | 142.00 | 163.00 | 14.79 | 13.30 | 14.39 | 8.14 | 0.59 | 0.73 | 23.05 | 2.81 | |
| PLMT-TOTAL | 17.80 | 19.30 | 8.43 | 1.67 | 1.70 | 2.15 | 0.07 | 0.09 | 16.23 | 0.33 | |
| TRANS-ADMIN | 2.00 | 2.00 | 0.00 | 0.19 | 0.18 | -5.79 | 0.01 | 0.01 | 7.20 | 0.03 | |
| -HOME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 2.00 | 2.00 | 0.00 | 0.19 | 0.18 | -5.79 | 0.01 | 0.01 | 7.20 | 0.03 | |
| INSTR-BJARD OFFICE | 15.10 | 22.20 | 47.02 | 1.41 | 1.96 | 38.51 | 0.06 | 0.10 | 57.61 | 0.38 | |
| -SCHOOLS | 31.00 | 76.00 | 145.16 | 2.90 | 6.71 | 130.97 | 0.13 | 0.34 | 162.81 | 1.31 | |
| -TOTAL | 46.10 | 98.20 | 113.02 | 4.32 | 8.67 | 100.68 | 0.19 | 0.44 | 128.35 | 1.69 | |
| GRANDTOTAL | 241.70 | 330.20 | 36.62 | 22.64 | 29.14 | 28.71 | 1.01 | 1.48 | 46.45 | 5.69 | |

BOARD 11

| CATEGORIES | 1969 | FYE-NC | NC:C*100 | | | NC:P*100 | | | NC:S |
|----------------------|--------|--------|----------|--------|-------|----------|------|--------|------|
| | | | 1969 | \$DIFF | 1976 | \$DIFF | 1976 | \$DIFF | |
| BUS ADM-MAN/SUP | 16.00 | 19.00 | 1.57 | 18.75 | 1.54 | -1.77 | 0.09 | 16.08 | 0.25 |
| -OTHER | 44.00 | 21.00 | 4.31 | -52.27 | 1.70 | -60.52 | 0.10 | -29.23 | 0.28 |
| -TOTAL | 60.00 | 40.00 | 5.88 | -33.33 | 3.24 | -44.86 | 0.19 | -1.15 | 0.53 |
| CSSR-TOTAL | 0.00 | 2.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.01 | 0.00 | 0.03 |
| ED.SER-AUDIO VISUAL | 3.00 | 16.00 | 0.29 | 433.33 | 1.30 | 341.15 | 0.08 | 690.83 | 0.21 |
| -GUIDANCE/COUNSEL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -LIBRARY | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -PSYCHOLOGICAL | 9.00 | 12.00 | 0.88 | 33.33 | 0.97 | 10.29 | 0.06 | 97.71 | 0.16 |
| -OTHER | 0.00 | 2.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.01 | 0.00 | 0.03 |
| -TOTAL | 12.00 | 30.00 | 1.18 | 150.00 | 2.43 | 106.79 | 0.14 | 270.70 | 0.39 |
| AFI,HLTH&FOOD SER-AT | 3.00 | 7.00 | 0.29 | 133.33 | 0.57 | 93.00 | 0.03 | 245.99 | 0.09 |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -FOOD SERVICES | 5.00 | 5.00 | 0.49 | 0.00 | 0.41 | -17.28 | 0.02 | 48.28 | 0.07 |
| -TOTAL | 8.00 | 12.00 | 0.78 | 50.00 | 0.97 | 24.07 | 0.06 | 122.42 | 0.16 |
| PLDP-TOTAL | 65.00 | 114.00 | 6.37 | 75.38 | 9.24 | 45.07 | 0.55 | 160.06 | 1.50 |
| PLMF-TOTAL | 55.00 | 61.00 | 5.39 | 10.91 | 4.95 | -8.26 | 0.29 | 64.46 | 0.80 |
| TRANS-ADMIN | 0.00 | 5.00 | 0.00 | 0.00 | 0.41 | 0.00 | 0.02 | 0.00 | 0.07 |
| -HOME-SCHOOL | 22.10 | 46.00 | 2.17 | 108.14 | 3.73 | 72.17 | 0.22 | 208.64 | 0.61 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 22.10 | 51.00 | 2.17 | 130.77 | 4.13 | 90.88 | 0.25 | 242.19 | 0.67 |
| INSR-BOARD OFFICE | 18.00 | 24.00 | 1.76 | 33.33 | 1.95 | 10.29 | 0.12 | 97.71 | 0.32 |
| -S-SHOLS | 20.00 | 60.50 | 1.96 | 202.50 | 4.90 | 150.22 | 0.29 | 348.55 | 0.80 |
| -TOTAL | 38.00 | 84.50 | 3.72 | 122.37 | 6.85 | 83.93 | 0.41 | 229.73 | 1.11 |
| GRANDTOTAL | 260.10 | 394.50 | 25.49 | 51.67 | 31.98 | 25.46 | 1.90 | 124.90 | 5.19 |

| CATEGORIES | FTE-VC | | | NC:C*100 | | | NC:P*100 | | | NC:S | |
|----------------------|--------|-------|--------|----------|-------|--------|----------|------|--------|------|------|
| | 1974 | 1976 | %DIFF | 1974 | 1976 | %DIFF | 1974 | 1976 | %DIFF | 1976 | 1976 |
| BUS ADM-MAN/SUP | 1.00 | 2.00 | 100.00 | 0.45 | 0.76 | 68.84 | 0.02 | 0.04 | 82.26 | 0.11 | |
| -OTHER | 5.00 | 5.60 | 12.00 | 2.24 | 2.12 | -5.45 | 0.10 | 0.10 | 2.07 | 0.29 | |
| -TOTAL | 6.00 | 7.60 | 26.67 | 2.69 | 2.87 | 6.93 | 0.12 | 0.14 | 15.43 | 0.40 | |
| CSE-ED | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| ED.SER-AUDIO VISUAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -GUIDANCE&COUNSEL | 1.50 | 1.50 | 0.00 | 0.67 | 0.57 | -15.58 | 0.03 | 0.03 | -8.87 | 0.08 | |
| -LIBRARY | 1.80 | 4.20 | 133.33 | 0.81 | 1.59 | 96.97 | 0.04 | 0.07 | 112.64 | 0.22 | |
| -PSYCHOLOGICAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 3.30 | 5.70 | 72.73 | 1.48 | 2.16 | 45.81 | 0.06 | 0.10 | 57.41 | 0.30 | |
| AFF,HLTH&FOOD SER-AT | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -HEALTH | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -FOOD SERVICES | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| PLDP-TOTAL | 29.80 | 30.80 | 3.36 | 13.35 | 11.65 | -12.75 | 0.58 | 0.55 | -5.81 | 1.62 | |
| PLMF-TOTAL | 1.00 | 2.00 | 100.00 | 0.45 | 0.76 | 68.84 | 0.02 | 0.04 | 82.26 | 0.11 | |
| TRANS-ADMIN | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -HOME-SCHOOL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -TOTAL | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| INSIR-BJARD OFFICE | 4.00 | 3.00 | -25.00 | 1.79 | 1.13 | -36.69 | 0.08 | 0.05 | -31.65 | 0.16 | |
| -SCHOOLS | 9.00 | 11.40 | 26.67 | 4.03 | 4.31 | 6.93 | 0.18 | 0.20 | 15.43 | 0.60 | |
| -TOTAL | 13.00 | 14.40 | 10.77 | 5.82 | 5.45 | -6.49 | 0.25 | 0.26 | 0.94 | 0.76 | |
| GRANDTOTAL | 53.10 | 60.50 | 13.94 | 23.79 | 22.88 | -3.82 | 1.04 | 1.08 | 3.83 | 3.18 | |

TOTAL SAMPLE

| CATEGORIES | FTE-NC | | NC:C*100 | | | NC:P*100 | | | NC:S |
|----------------------|---------|---------|----------|-------|---------|----------|------|---------|------|
| | 1970 | 1975 | 1970 | 1976 | %DIFF | 1970 | 1976 | %DIFF | 1976 |
| BUS ADM-MAN/SUP | 78.00 | 97.20 | 0.59 | 0.74 | 24.62 | 0.02 | 0.03 | 38.43 | 0.13 |
| -OTHER | 304.10 | 280.10 | 2.29 | 2.12 | -7.89 | 0.10 | 0.10 | 2.32 | 0.38 |
| -TOTAL | 382.10 | 377.30 | 2.88 | 2.86 | -1.26 | 0.12 | 0.13 | 9.69 | 0.52 |
| CSEB-TOTAL | 31.00 | 41.00 | 0.23 | 0.31 | 32.26 | 0.01 | 0.01 | 46.92 | 0.06 |
| ED.SER-AUDIO VISUAL | 92.60 | 145.50 | 0.70 | 1.10 | 57.13 | 0.03 | 0.05 | 74.55 | 0.20 |
| -GUIDANCE&COUNSE | 22.50 | 33.10 | 0.17 | 0.25 | 47.11 | 0.01 | 0.01 | 63.42 | 0.05 |
| -LIBRARY | 57.10 | 36.80 | 0.43 | 0.28 | -35.55 | 0.02 | 0.01 | -28.41 | 0.05 |
| -PSYCHOLOGICAL | 72.80 | 91.50 | 0.55 | 0.69 | 25.69 | 0.02 | 0.03 | 39.62 | 0.13 |
| -OTHER | 3.30 | 39.30 | 0.02 | 0.30 | 1109.09 | 0.00 | 0.01 | 1243.13 | 0.05 |
| -TOTAL | 248.30 | 346.80 | 1.87 | 2.63 | 39.67 | 0.08 | 0.12 | 55.15 | 0.48 |
| ATT.HLTH&FOOD SER-AT | 20.60 | 28.00 | 0.16 | 0.21 | 35.92 | 0.01 | 0.01 | 50.99 | 0.04 |
| -HEALTH | 50.80 | 0.00 | 0.38 | 0.00 | -100.00 | 0.02 | 0.00 | -100.00 | 0.00 |
| -FOOD SERVICES | 30.50 | 17.20 | 0.23 | 0.13 | -43.61 | 0.01 | 0.01 | -37.35 | 0.02 |
| -TOTAL | 101.90 | 45.20 | 0.77 | 0.34 | -55.64 | 0.03 | 0.02 | -50.73 | 0.06 |
| PLDP-TOTAL | 1893.70 | 2038.30 | 14.28 | 15.46 | 8.23 | 0.59 | 0.71 | 19.57 | 2.80 |
| PLMF-TOTAL | 396.90 | 391.30 | 2.99 | 2.97 | -0.87 | 0.12 | 0.14 | 9.52 | 0.54 |
| TRANS-ADMIN | 12.90 | 20.40 | 0.10 | 0.15 | 58.14 | 0.00 | 0.01 | 75.67 | 0.03 |
| -HOME-SCHOOL | 167.70 | 98.20 | 1.26 | 0.74 | -41.44 | 0.05 | 0.03 | -34.95 | 0.13 |
| -OTHER | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -TOTAL | 180.60 | 118.50 | 1.36 | 0.90 | -34.33 | 0.06 | 0.04 | -27.05 | 0.16 |
| INSTB-BOARD OFFICE | 145.10 | 166.20 | 1.09 | 1.26 | 14.54 | 0.05 | 0.06 | 27.24 | 0.23 |
| -SCHOOLS | 694.30 | 808.10 | 5.24 | 6.13 | 17.03 | 0.22 | 0.28 | 29.29 | 1.11 |
| -TOTAL | 855.90 | 1001.80 | 6.46 | 7.60 | 17.05 | 0.27 | 0.35 | 30.02 | 1.37 |
| GRANDTOTAL | 4090.40 | 4360.30 | 30.85 | 33.07 | 7.18 | 1.28 | 1.52 | 18.42 | 5.98 |

APPENDIX I

Comparability of Data from Different Sources

Table I-1 compares data on the numbers of certificated and non-certificated staff from different sources. For some boards, the figures reported by the different sources agree, but for others there is considerable discrepancy. In the following comments we shall try to account for the differences in the data, and to explain how the choice of one data set rather than the other affected the values of various ratios obtained in this study.

Non-Certificated Staff

For non-certificated staff, data were obtained both directly from the local school board using the data collection instrument based on the *Uniform Code of Accounts* (Appendix A) and from the records of the Ontario Municipal Employees Retirement Board (OMERS). Boards were requested to provide data for the number of employees as of December 31, 1976, whereas the OMERS provided data for the number as of December 1977.

Not surprisingly, the OMERS data suggest fewer employees than do board data, since all but one of the school boards would have experienced a decline in enrolments during the intervening year. However, the difference in numbers of staff reported by the two sources is too great to be attributed to this cause alone. In fact, the major reason for the difference is that many board employees do not belong to OMERS, and therefore are not represented in the OMERS data. According to one board interviewee, the decision not to join OMERS is particularly prevalent among secretarial and clerical staff.

Since both sets of data are used in this study, albeit for different purposes, it is important to consider the implications of the discrepancy for the various staffing ratios. Board data were used to establish staffing trends and standards for non-certificated staff ratios. OMERS data were used to investigate the relationship between future supply and demand. Since the numbers of staff indicated by the OMERS data are, on the average, 10% smaller than those indicated by boards, the ratios of staff to students projected for the next ten years average 10% less than those that would be indicated by board data. However, if the age distribution of non-certificated board employees who do not belong to OMERS is the same as that for members, then the conclusions based upon the OMERS sample is applicable to all non-certificated staff. In this study, we assumed that the age distributions are similar, but it is an assumption that should be tested.

Certificated Staff

Data for certificated staff were also available from two sources, the boards themselves and the Ministry of Education publication *Enrolment and Staff Ratios, 1976* (Government of Ontario, 1977). The latter source indicated an average of 3% fewer staff than the former. This difference cannot be explained by the differences in dates (December 31, 1976 for board data and September 30, 1976 for Ministry data). One probable explanation is the different coding schemes used.

In the *Uniform Code of Accounts*, the categories under expenditures for instruction include one term "Other Instructional." This category can include either certificated teachers or non-certificated support staff. Being unable to separate the two, we have counted them all as certificated staff. This cannot be the sole explanation for the discrepancies, however, since in several cases Ministry data indicate a higher number of certificated staff than do board data. We are unable to account for these differences.

Throughout this study, we have relied on the board data for numbers of certificated staff. As a result, the ratios of non-certificated to certificated staff will be lower than they would have been had Ministry data been used. For example, the overall ratio for non-certificated staff per 100 certificated staff is 33.07 using board data and 34.06 using Ministry data, a difference of 3%. Conversely, the number of certificated staff to pupils is higher using board data than it would be using Ministry data.

Conclusion

The difficulty of obtaining comparable data leads us to suggest a stronger link between the personnel records in boards, the *Uniform Code of Accounts*, and September 30th school reports. In particular, expenditure categories for certificated staff should be clearly separated from those for non-certificated staff. If an integrated system were developed much data could be transferred from the boards to the Ministry on data tapes, thereby avoiding the laborious coding and keying operations. The result would be more accurate, accessible, and timely information.

TABLE I-1
COMPARISON OF DATA FROM DIFFERENT SOURCES

| Board | Non-Certificated Staff | | Certificated Staff | |
|-----------|-------------------------|-------------------------|-------------------------|---|
| | 1976 Board
(Dec. 31) | 1977 OMERS
(Dec. 31) | 1976 Board
(Dec. 31) | Sept. 30, 1976
Enrolment and
Staff Ratios
ISRB - MOE |
| Board #1 | 1,970.0 | 1,961 | 5,283.5 | 5,196.1 |
| Board #2 | 359.2 | 341 | 1,157.0 | 1,191.6 |
| Board #3 | 335.1 | 253 | 872.0 | 866.5 |
| Board #5 | 259.3 | 191 | 1,001.5 | 962.5 |
| Board #6 | 563.5 | 486 | 1,916.0 | 1,844.8 |
| Board #7 | 63.0 | 41 | 228.0 | 213.8 |
| Board #9 | 25.0 | 22 | 97.0 | 102.0 |
| Board #10 | 330.2 | 253 | 1,133.0 | 1,075.4 |
| Board #11 | 394.5 | 331 | 1,233.5 | 1,082.8 |
| Board #12 | 60.5 | 39 | 264.5 | 266.4 |
| Total | 4,360.3 | 3,918 | 13,186.0 | 12,801.9 |

APPENDIX J

Projections of Demand for Non-Certificated
Staff by Functional Positions, 1977 to 1986

PROJECTIONS OF AIDS OF STAFF FOR THE NEXT 10 YEARS

| CODE | FYE-1970 | SALARY | FYE-1970 | SALARY | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|-------|----------|--------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 10020 | 10.7 | 53. | 17.0 | 125. | 16.3 | 15.5 | 14.7 | 13.9 | 13.1 | 12.3 | 11.7 | 11.2 | 10.9 | 10.5 |
| 10330 | 13.0 | 247. | 30.0 | 758. | 28.7 | 27.4 | 26.0 | 24.5 | 23.0 | 21.8 | 20.7 | 19.8 | 19.1 | 18.6 |
| 10350 | 0.0 | 0. | 0.0 | 0. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10370 | 14.0 | 167. | 9.0 | 188. | 8.6 | 8.2 | 7.8 | 7.3 | 6.9 | 6.5 | 6.2 | 5.9 | 5.7 | 5.6 |
| 10390 | 148.0 | 964. | 131.5 | 1324. | 125.9 | 120.2 | 114.0 | 107.4 | 101.0 | 95.3 | 90.5 | 86.8 | 83.9 | 81.3 |
| 10390 | 0.0 | 0. | 0.0 | 0. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20330 | 1.0 | 42. | 4.0 | 34. | 3.8 | 3.7 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 | 2.6 | 2.5 |
| 20370 | 22.0 | 172. | 22.0 | 235. | 21.1 | 20.1 | 19.1 | 18.0 | 16.9 | 16.0 | 15.1 | 14.5 | 14.0 | 13.6 |
| 20390 | 1.0 | 5. | 1.0 | 11. | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 |
| 20390 | 0.0 | 0. | 0.0 | 0. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32330 | 128.2 | 2120. | 31.5 | 1245. | 30.1 | 28.8 | 27.3 | 25.7 | 24.2 | 22.8 | 21.7 | 20.8 | 20.1 | 19.5 |
| 32350 | 0.0 | 0. | 50.5 | 1176. | 48.3 | 46.1 | 43.8 | 41.2 | 38.8 | 36.6 | 34.8 | 33.3 | 32.2 | 31.2 |
| 32390 | 80.8 | 494. | 80.0 | 837. | 76.6 | 73.1 | 69.4 | 65.3 | 61.4 | 58.0 | 55.1 | 52.8 | 51.1 | 49.5 |
| 34390 | 397.0 | 2313. | 345.5 | 3372. | 330.7 | 315.7 | 299.5 | 282.1 | 265.3 | 250.5 | 237.9 | 228.1 | 220.5 | 213.6 |
| 34390 | 0.0 | 0. | 0.0 | 0. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36130 | 257.8 | 5202. | 259.0 | 7839. | 247.9 | 236.7 | 224.5 | 211.5 | 198.9 | 187.8 | 178.3 | 171.0 | 165.3 | 160.2 |
| 36230 | 4875.4 | 42220. | 4488.0 | 84055. | 4295.2 | 4100.8 | 3890.7 | 3664.7 | 3446.5 | 3254.0 | 3090.3 | 2963.6 | 2864.4 | 2775.3 |
| 36300 | 80.2 | 1325. | 48.5 | 1232. | 46.4 | 44.3 | 42.0 | 39.6 | 37.2 | 35.2 | 33.4 | 32.0 | 31.0 | 30.0 |
| 38130 | 7.0 | 167. | 6.0 | 215. | 5.7 | 5.5 | 5.2 | 4.9 | 4.6 | 4.4 | 4.1 | 4.0 | 3.8 | 3.7 |
| 38230 | 250.4 | 2552. | 331.0 | 6056. | 316.8 | 302.4 | 287.0 | 270.3 | 254.2 | 240.0 | 227.9 | 218.6 | 211.3 | 204.7 |
| 38300 | 12.4 | 60. | 69.0 | 437. | 66.0 | 63.0 | 59.8 | 56.3 | 53.0 | 50.0 | 47.5 | 45.6 | 44.0 | 42.7 |
| 52350 | 2.0 | 37. | 5.0 | 115. | 4.8 | 4.6 | 4.3 | 4.1 | 3.8 | 3.6 | 3.4 | 3.3 | 3.2 | 3.1 |
| 52370 | 61.6 | 387. | 68.0 | 771. | 65.1 | 62.1 | 59.0 | 55.5 | 52.2 | 49.3 | 46.8 | 44.9 | 43.4 | 42.0 |
| 52390 | 9.0 | 45. | 21.5 | 215. | 20.6 | 19.6 | 18.6 | 17.6 | 16.5 | 15.6 | 14.8 | 14.2 | 13.7 | 13.3 |
| 54350 | 3.0 | 51. | 1.0 | 25. | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 |
| 54370 | 0.0 | 0. | 1.0 | 4. | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 |
| 54390 | 4.0 | 24. | 1.0 | 11. | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 |

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PROJECTIONS OF NEEDS OF STAFF FOR THE NEXT 10 YEARS

[illegible]

| | | | | | | | | | | | | | | | | | | | |
|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 56550 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56570 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56590 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58050 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58570 | 3.0 | 37. | 4.5 | 35. | 4.4 | 4.3 | 1.1 | 4.0 | 3.9 | 3.8 | 3.7 | 1.2 | 1.2 | 1.2 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| 58990 | 1.0 | 3. | 1.5 | 3. | 1.5 | 1.4 | 1.4 | 1.3 | 1.3 | 1.3 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 59050 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 59370 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 59930 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 59990 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62050 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62570 | 1.5 | 13. | 2.0 | 27. | 2.0 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 62990 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62990 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64050 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64370 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64990 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66050 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66570 | 6.0 | 34. | 10.0 | 99. | 9.8 | 9.5 | 9.2 | 9.0 | 8.8 | 8.5 | 8.3 | 8.2 | 8.2 | 8.1 | 8.2 | 8.2 | 8.2 | 8.1 | 8.1 |
| 66990 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70050 | 2.0 | 23. | 2.0 | 48. | 2.0 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 70370 | 149.0 | 718. | 192.1 | 1902. | 187.5 | 182.1 | 176.5 | 172.1 | 168.3 | 163.6 | 159.9 | 158.2 | 157.3 | 156.5 | 157.3 | 157.3 | 156.5 | 156.5 | 156.5 |
| 70990 | 1.0 | 6. | 2.0 | 18. | 2.0 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 70990 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75050 | 2.0 | 31. | 3.0 | 55. | 2.9 | 2.8 | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 | 2.5 | 2.5 | 2.4 | 2.5 | 2.5 | 2.5 | 2.4 | 2 |

PROJECTIONS OF NEEDS OF STAFF FOR THE NEXT 10 YEARS

[illegible]

[illegible]

| | | | | | | | | | | | |
|-------|------|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|
| 77070 | 12.0 | 36. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 78070 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80070 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 91070 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

PROJECTIONS OF NOS OF STAFF FOR THE NEXT 10 YEARS

| CODE | FTE-1969 | SALARY FTE-1976 | SALARY | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|-------|----------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 10020 | 33.0 | 70. | 29.0 | 59. | 27.8 | 27.0 | 26.2 | 25.5 | 24.9 | 23.4 | 22.9 | 22.6 | 22.4 |
| 10030 | 2.0 | 44. | 2.0 | 77. | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.6 | 1.6 | 1.6 | 1.5 |
| 10050 | 12.0 | 122. | 11.0 | 214. | 10.5 | 10.2 | 10.0 | 9.7 | 9.5 | 8.9 | 8.7 | 8.6 | 8.5 |
| 10070 | 1.0 | 6. | 1.0 | 25. | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 |
| 10090 | 30.0 | 137. | 24.0 | 213. | 23.0 | 22.3 | 21.7 | 21.1 | 20.6 | 19.3 | 19.0 | 18.7 | 18.5 |
| 10390 | 1.0 | 6. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20030 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20070 | 0.0 | 0. | 1.0 | 13. | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 |
| 20090 | 0.0 | 0. | 2.0 | 18. | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.6 | 1.6 | 1.6 | 1.5 |
| 20390 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32030 | 3.0 | 82. | 3.0 | 125. | 2.9 | 2.8 | 2.7 | 2.6 | 2.6 | 2.4 | 2.4 | 2.3 | 2.3 |
| 32050 | 31.0 | 544. | 28.0 | 736. | 26.8 | 26.1 | 25.3 | 24.6 | 24.1 | 23.2 | 22.1 | 21.9 | 21.6 |
| 32090 | 9.0 | 40. | 16.0 | 140. | 15.3 | 14.9 | 14.5 | 14.1 | 13.8 | 13.3 | 12.7 | 12.5 | 12.4 |
| 34090 | 85.3 | 515. | 118.0 | 1059. | 113.1 | 109.8 | 106.7 | 103.8 | 101.4 | 97.7 | 95.1 | 93.3 | 91.1 |
| 34390 | 1.0 | 4. | 2.0 | 17. | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 | 1.6 | 1.6 | 1.6 | 1.5 |
| 36100 | 160.0 | 2282. | 132.0 | 3544. | 126.5 | 122.9 | 119.4 | 116.1 | 113.4 | 109.3 | 104.4 | 103.0 | 102.0 |
| 36200 | 1784.5 | 14130. | 1510.0 | 26240. | 1447.5 | 1405.6 | 1365.9 | 1328.2 | 1297.7 | 1250.7 | 1194.5 | 1178.7 | 1166.4 |
| 36300 | 14.3 | 80. | 42.0 | 327. | 40.3 | 39.1 | 38.0 | 36.9 | 36.1 | 34.8 | 33.2 | 32.8 | 32.4 |
| 38100 | 3.0 | 51. | 4.0 | 124. | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 | 3.1 | 3.1 |
| 38200 | 135.0 | 1077. | 197.0 | 3241. | 188.8 | 183.4 | 178.2 | 173.3 | 169.3 | 163.2 | 158.8 | 153.8 | 152.2 |
| 38300 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52050 | 1.0 | 19. | 1.0 | 23. | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 |
| 52070 | 4.0 | 24. | 6.0 | 73. | 5.8 | 5.6 | 5.4 | 5.3 | 5.2 | 5.0 | 4.7 | 4.7 | 4.6 |
| 52090 | 3.0 | 12. | 3.0 | 23. | 2.9 | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 | 2.4 | 2.3 | 2.3 |
| 54050 | 1.0 | 18. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54070 | 0.0 | 0. | 0.0 | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54090 | 4.0 | 20. | 16.0 | 122. | 15.3 | 14.9 | 14.5 | 14.1 | 13.8 | 13.3 | 12.9 | 12.5 | 12.4 |

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PROJECTIONS OF NOS OF STAFF FOR THE NEXT 10 YEARS

| CODE | FTE-1970 | SALARY FTE-1976 | SALARY | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|-------|----------|-----------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 10020 | 15.0 | 17. | 25. | 14.4 | 13.9 | 13.4 | 12.9 | 12.4 | 12.1 | 11.9 | 11.7 | 11.6 | 11.5 |
| 10030 | 1.0 | 18. | 20. | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 10050 | 1.0 | 8. | 13. | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 10070 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10090 | 7.0 | 33. | 46. | 4.8 | 4.6 | 4.5 | 4.3 | 4.1 | 4.0 | 4.0 | 3.9 | 3.9 | 3.8 |
| 10190 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20030 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20070 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20090 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20390 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32030 | 1.0 | 25. | 38. | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 32050 | 5.0 | 51. | 15. | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 32090 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34090 | 12.0 | 57. | 110. | 10.6 | 10.2 | 9.8 | 9.5 | 9.1 | 8.9 | 8.7 | 8.6 | 8.5 | 8.4 |
| 34390 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36100 | 17.0 | 235. | 432. | 17.3 | 16.7 | 16.1 | 15.5 | 14.9 | 14.6 | 14.2 | 14.0 | 14.0 | 13.8 |
| 36200 | 242.0 | 2047. | 3696. | 197.8 | 190.4 | 184.2 | 177.4 | 170.7 | 166.3 | 162.7 | 160.3 | 159.7 | 157.6 |
| 36300 | 5.6 | 28. | 17. | 2.2 | 2.1 | 2.1 | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 |
| 38100 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38200 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38300 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52050 | 1.0 | 12. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52070 | 0.0 | 0. | 13. | 1.9 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 |
| 52090 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54050 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54070 | 0.0 | 0. | 3. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54090 | 0.0 | 0. | 3. | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |

[illegible]

[illegible]

PROJECTIONS OF VJS UP STAFF FOR THE NEXT 10 YEARS

[illegible]

PROJECTIONS OF NEEDS OF STAFF FOR THE NEXT 10 YEARS

[illegible]

[illegible]

PROJECTIONS UP WDS OF STAFF FOR THE NEXT 10 YEARS

[illegible]

[illegible]

TOTAL SAMPLE

PROJECTIONS OF NJS OF STAFF FOR THE NEXT 10 YEARS

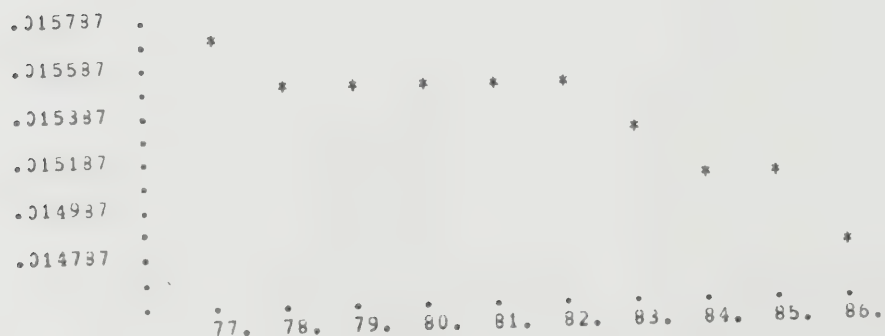
| CODE | FTE-1970 | SALARY FTE-1976 | SALARY | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|-------|----------|-----------------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|
| 10020 | 156.7 | 351. | 167.0 | 610. | 160.8 | 154.5 | 148.3 | 142.2 | 136.8 | 131.2 | 126.9 | 123.7 | 119.7 |
| 10030 | 41.5 | 739. | 50.5 | 1342. | 48.6 | 46.7 | 44.8 | 43.0 | 41.4 | 39.7 | 38.4 | 37.4 | 36.2 |
| 10050 | 36.5 | 354. | 46.7 | 756. | 45.0 | 43.2 | 41.5 | 39.8 | 38.3 | 36.7 | 35.5 | 34.6 | 33.5 |
| 10070 | 15.0 | 173. | 10.0 | 213. | 9.6 | 9.3 | 8.9 | 8.5 | 8.2 | 7.9 | 7.6 | 7.4 | 7.2 |
| 10090 | 285.6 | 1494. | 266.1 | 2514. | 256.2 | 246.2 | 236.3 | 226.6 | 218.0 | 209.1 | 202.1 | 197.1 | 190.7 |
| 10390 | 3.5 | 18. | 4.0 | 27. | 3.9 | 3.7 | 3.6 | 3.4 | 3.3 | 3.1 | 3.0 | 2.9 | 2.9 |
| 20030 | 6.0 | 68. | 7.0 | 137. | 6.7 | 6.5 | 6.2 | 6.0 | 5.7 | 5.5 | 5.3 | 5.2 | 5.0 |
| 20070 | 22.0 | 172. | 27.0 | 353. | 26.0 | 25.0 | 24.0 | 23.0 | 22.1 | 21.2 | 20.5 | 20.0 | 19.4 |
| 20090 | 3.0 | 18. | 7.0 | 70. | 6.7 | 6.5 | 6.2 | 6.0 | 5.7 | 5.5 | 5.3 | 5.2 | 5.0 |
| 20390 | 0.0 | 0. | 0.0 | 0. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32030 | 158.2 | 2761. | 61.5 | 2332. | 59.2 | 56.9 | 54.6 | 52.4 | 50.4 | 48.3 | 46.7 | 45.6 | 44.1 |
| 32050 | 99.9 | 1383. | 161.0 | 3751. | 155.0 | 149.0 | 143.0 | 137.1 | 131.9 | 126.5 | 122.3 | 119.3 | 115.4 |
| 32090 | 145.1 | 857. | 166.2 | 1685. | 160.0 | 153.8 | 147.6 | 141.5 | 136.2 | 130.6 | 126.3 | 123.1 | 119.1 |
| 34090 | 694.3 | 3666. | 808.1 | 7027. | 778.1 | 747.8 | 717.6 | 688.2 | 662.0 | 635.0 | 613.9 | 598.6 | 579.2 |
| 34390 | 16.5 | 58. | 27.5 | 137. | 26.5 | 25.4 | 24.4 | 23.4 | 22.5 | 21.6 | 20.9 | 20.4 | 19.7 |
| 36130 | 677.8 | 10394. | 750.0 | 20631. | 722.1 | 694.0 | 666.0 | 638.7 | 614.4 | 589.3 | 569.7 | 555.6 | 537.6 |
| 36230 | 11621.1 | 100646. | 11171.9 | 192510. | 10756.8 | 10338.1 | 9921.2 | 9513.6 | 9152.4 | 8778.2 | 8486.5 | 8275.6 | 8008.0 |
| 36330 | 183.3 | 2304. | 257.5 | 4151. | 247.9 | 238.3 | 228.7 | 219.3 | 211.0 | 202.3 | 195.6 | 190.7 | 184.6 |
| 38130 | 10.0 | 218. | 12.0 | 385. | 11.6 | 11.1 | 10.7 | 10.2 | 9.8 | 9.4 | 9.1 | 8.9 | 8.6 |
| 38200 | 494.0 | 4695. | 701.0 | 11929. | 675.0 | 648.7 | 622.5 | 596.9 | 574.3 | 550.8 | 532.5 | 519.3 | 502.5 |
| 38330 | 13.8 | 68. | 71.0 | 510. | 68.4 | 65.7 | 63.1 | 60.5 | 58.2 | 55.8 | 53.9 | 52.6 | 50.9 |
| 52050 | 7.0 | 100. | 13.0 | 301. | 12.5 | 12.0 | 11.5 | 11.1 | 10.7 | 10.2 | 9.9 | 9.6 | 9.3 |
| 52070 | 68.6 | 434. | 91.0 | 1031. | 87.6 | 84.2 | 80.8 | 77.5 | 74.6 | 71.5 | 69.1 | 67.4 | 65.2 |
| 52090 | 17.0 | 77. | 41.5 | 331. | 40.0 | 38.4 | 36.9 | 35.3 | 34.0 | 32.6 | 31.5 | 30.7 | 29.7 |
| 54050 | 7.0 | 117. | 5.0 | 115. | 4.8 | 4.6 | 4.4 | 4.3 | 4.1 | 3.9 | 3.8 | 3.7 | 3.6 |
| 54070 | 7.5 | 74. | 10.1 | 140. | 9.7 | 9.3 | 9.0 | 8.6 | 8.3 | 7.9 | 7.7 | 7.5 | 7.2 |
| 54090 | 8.0 | 44. | 18.0 | 141. | 17.3 | 16.7 | 16.0 | 15.3 | 14.7 | 14.1 | 13.7 | 13.3 | 12.9 |

APPENDIX K

Supply/Demand Ratios, 1977 to 1986

BOARD 2-F

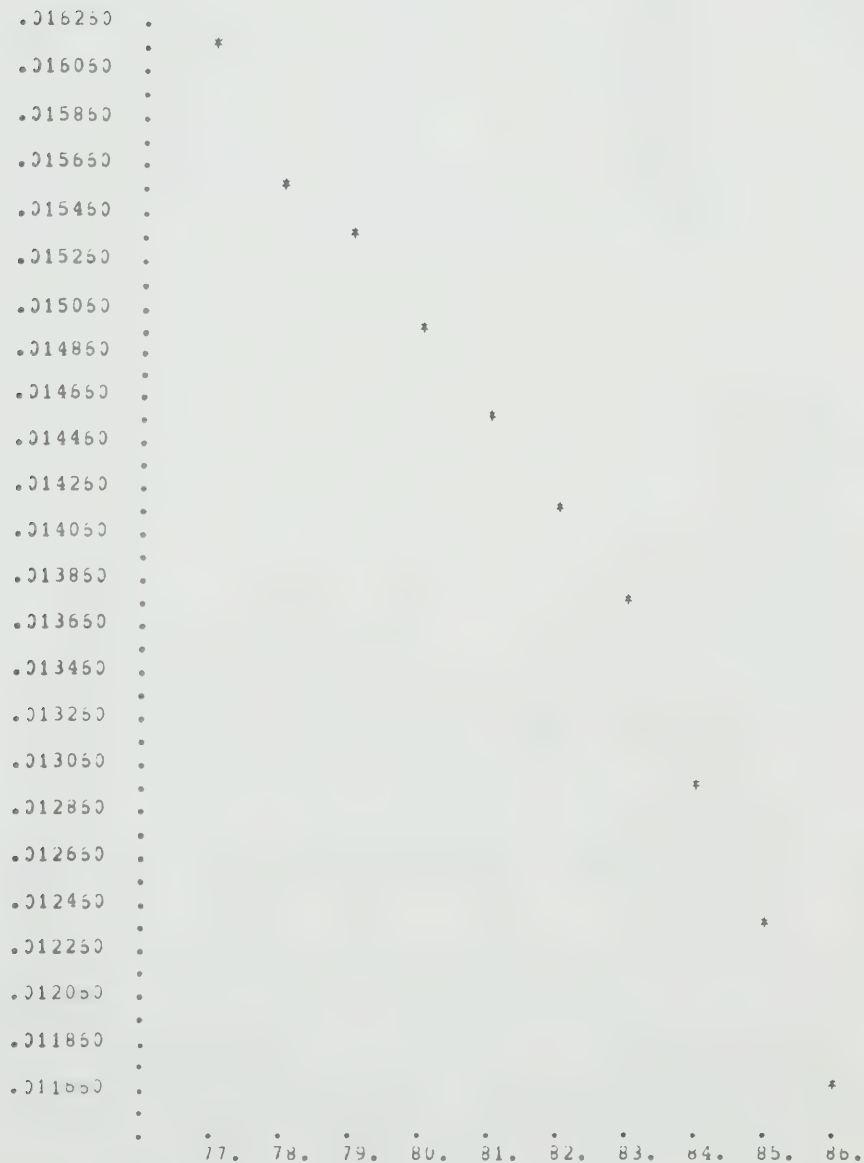
| YEAR | NO OF NC STAFF-A | PROJECTED ENROLMENT-B | A/B |
|--|------------------|-----------------------|---------|
| 1977 | 341.000 | 21861. | .015599 |
| 1978 | 327.889 | 21055. | .015573 |
| 1979 | 315.329 | 20279. | .015550 |
| 1980 | 304.439 | 19593. | .015459 |
| 1981 | 295.199 | 19109. | .015448 |
| 1982 | 286.671 | 18502. | .015494 |
| 1983 | 278.719 | 18190. | .015323 |
| 1984 | 270.920 | 17850. | .015178 |
| 1985 | 263.458 | 17350. | .015185 |
| 1986 | 255.811 | 17300. | .014787 |
| RANGE .000812 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 5 | | | |



BOARD 3-T

| YEAR | NO OF NC STAFF-A | PROJECTED ENROLMENT-B | A/B |
|------|------------------|-----------------------|---------|
| 1977 | 253.000 | 15595. | .016120 |
| 1978 | 238.037 | 15247. | .015612 |
| 1979 | 225.976 | 14779. | .015290 |
| 1980 | 214.862 | 14411. | .014910 |
| 1981 | 204.625 | 14088. | .014525 |
| 1982 | 194.140 | 13699. | .014172 |
| 1983 | 183.588 | 13391. | .013710 |
| 1984 | 172.817 | 13247. | .013046 |
| 1985 | 162.698 | 13167. | .012357 |
| 1986 | 152.804 | 13105. | .011660 |

RANGE .004460 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 23

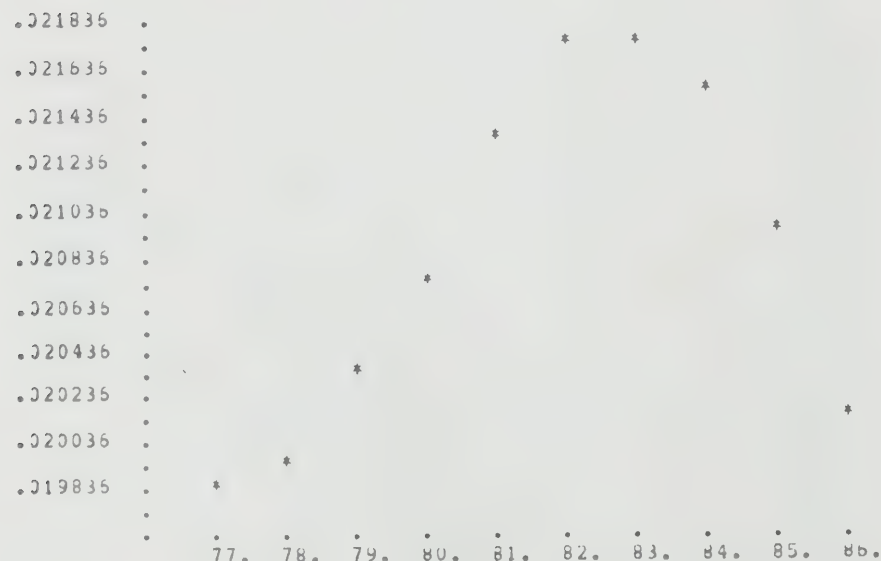


BJARD 4-T

YEAR NO OF NC STAFF-A PROJECTED ENROLLMENT-B A/B

| | | | |
|------|---------|--------|---------|
| 1977 | 526.000 | 25517. | .019836 |
| 1978 | 506.156 | 25379. | .019944 |
| 1979 | 490.737 | 24154. | .020317 |
| 1980 | 477.069 | 22949. | .020788 |
| 1981 | 464.226 | 21746. | .021348 |
| 1982 | 451.414 | 20840. | .021661 |
| 1983 | 438.882 | 20142. | .021789 |
| 1984 | 425.061 | 19778. | .021492 |
| 1985 | 410.896 | 19576. | .020883 |
| 1986 | 396.331 | 19598. | .020120 |

RANGE .001953 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 10

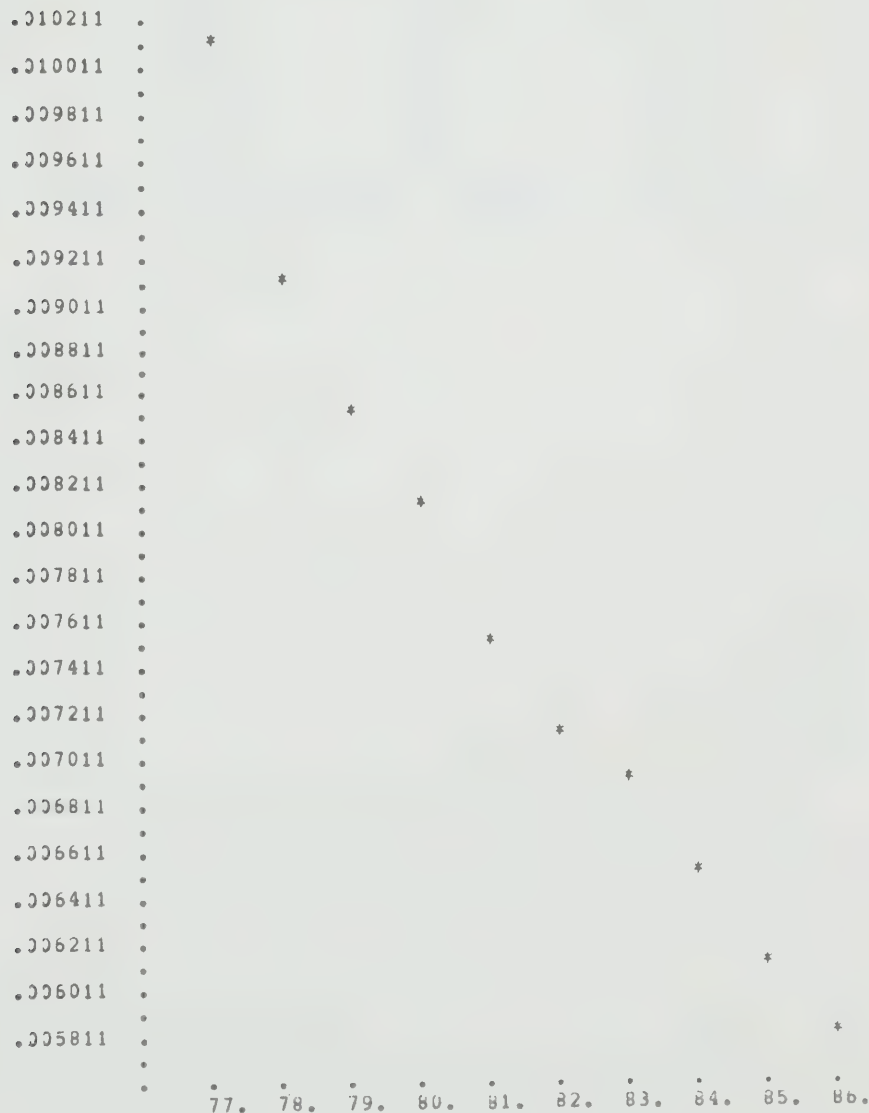


BOARD 5-T

YEAR NO OF NC STAFF-A PROJECTED ENROLMENT-B A/B

| | | | |
|------|---------|--------|---------|
| 1977 | 191.000 | 13866. | .010124 |
| 1978 | 171.016 | 13549. | .009170 |
| 1979 | 157.844 | 13496. | .008534 |
| 1980 | 146.575 | 13238. | .008037 |
| 1981 | 136.661 | 13019. | .007584 |
| 1982 | 128.723 | 17865. | .007205 |
| 1983 | 121.638 | 17682. | .006879 |
| 1984 | 114.758 | 17641. | .006505 |
| 1985 | 108.390 | 17604. | .006157 |
| 1986 | 102.597 | 17655. | .005811 |

RANGE .004313 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 22

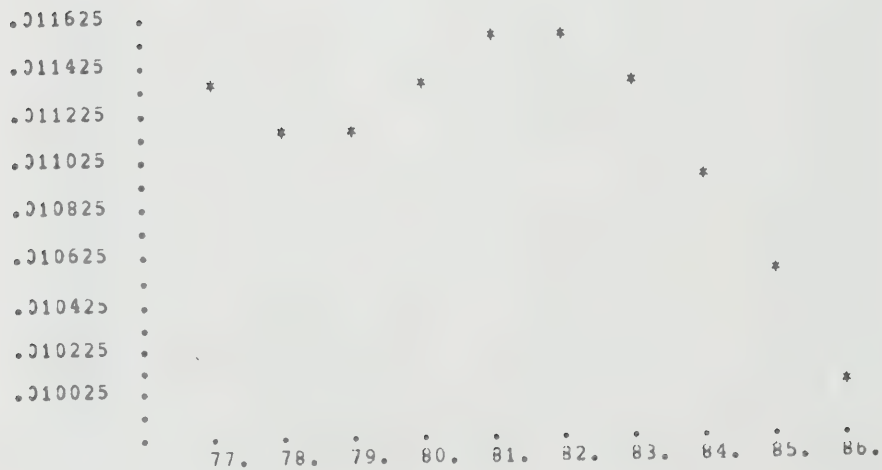


BOARD 7-T

YEAR NO OF NC STAFF-A PROJECTED ENROLMENT-B A/B

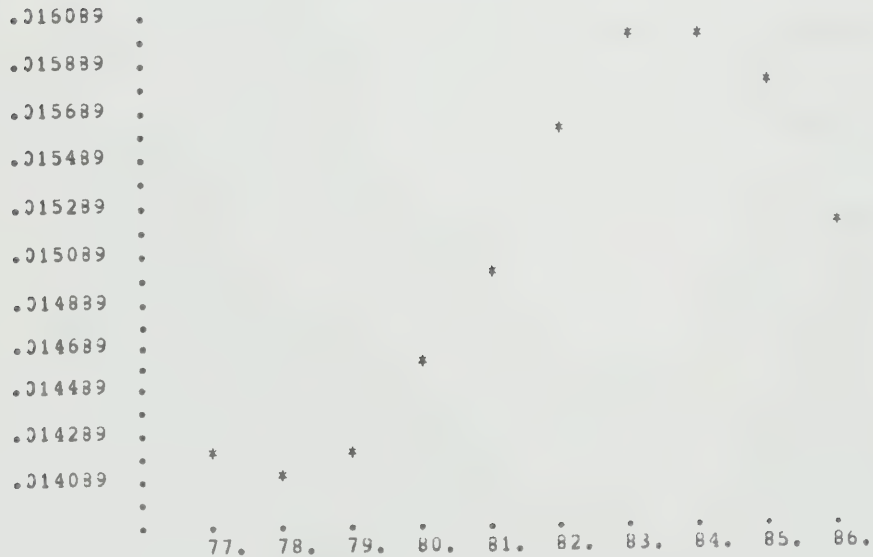
| | | | |
|------|--------|-------|---------|
| 1977 | 41.000 | 3520. | .011326 |
| 1978 | 38.755 | 3484. | .011124 |
| 1979 | 37.621 | 3370. | .011164 |
| 1980 | 36.830 | 3246. | .011346 |
| 1981 | 36.052 | 3124. | .011540 |
| 1982 | 34.909 | 3043. | .011472 |
| 1983 | 33.505 | 2977. | .011255 |
| 1984 | 32.058 | 2933. | .010930 |
| 1985 | 30.566 | 2922. | .010461 |
| 1986 | 28.911 | 2884. | .010025 |

RANGE .001516 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 8



BJARD 8-T

| YEAR | NO OF NC STAFF-A | PROJECTED ENROLMENT-B | A/B |
|---|------------------|-----------------------|---------|
| 1977 | 227.000 | 15111. | .014090 |
| 1978 | 219.349 | 15569. | .014089 |
| 1979 | 213.612 | 14985. | .014255 |
| 1980 | 208.478 | 14308. | .014571 |
| 1981 | 203.778 | 13515. | .015078 |
| 1982 | 199.224 | 12839. | .015517 |
| 1983 | 195.069 | 12267. | .015902 |
| 1984 | 190.972 | 11900. | .016048 |
| 1985 | 186.673 | 11890. | .015700 |
| 1986 | 182.260 | 11987. | .015205 |
| RANGE .001959 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 10 | | | |

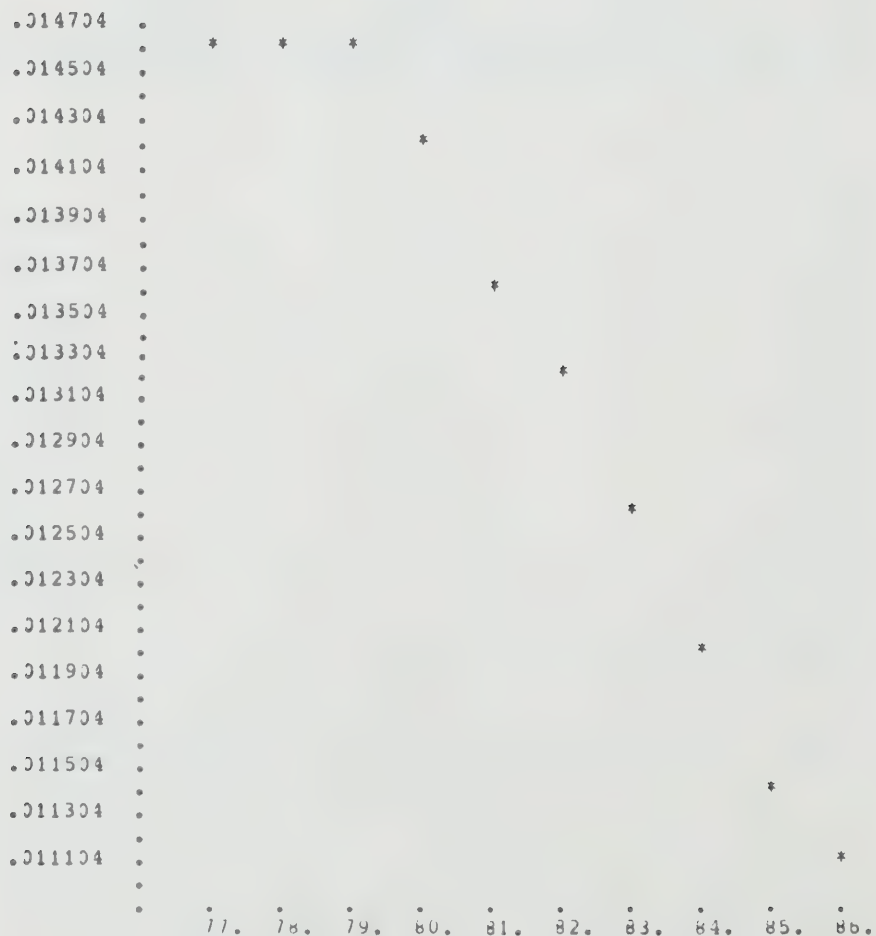


BJARD 9

YEAR NO OF NC STAFF-A PROJECTED ENROLMENT-B A/B

| | | | |
|------|--------|-------|---------|
| 1977 | 22.000 | 1511. | .014560 |
| 1978 | 21.601 | 1485. | .014546 |
| 1979 | 21.103 | 1440. | .014655 |
| 1980 | 20.442 | 1440. | .014196 |
| 1981 | 19.494 | 1425. | .013680 |
| 1982 | 18.634 | 1415. | .013169 |
| 1983 | 17.786 | 1415. | .012570 |
| 1984 | 16.833 | 1405. | .011981 |
| 1985 | 16.093 | 1400. | .011495 |
| 1986 | 15.546 | 1400. | .011104 |

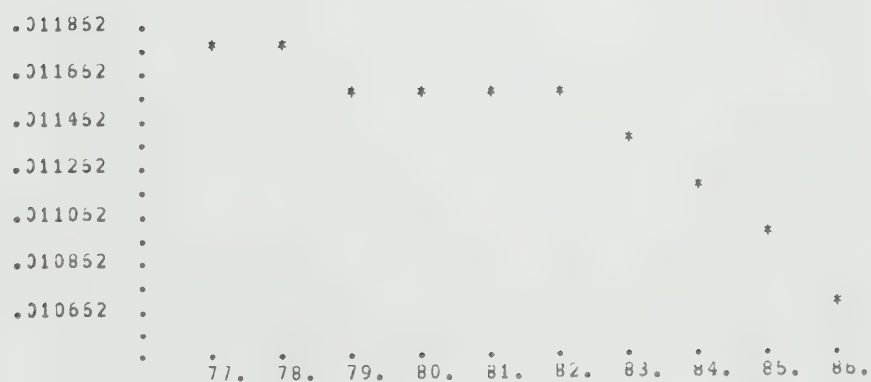
RANGE .003551 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 18



BOARD 10

| YEAR | NO OF NC STAFF-A | PROJECTED ENROLMENT-B | A/B |
|------|------------------|-----------------------|---------|
| 1977 | 253.000 | 21453. | .011793 |
| 1978 | 238.928 | 20480. | .011666 |
| 1979 | 226.811 | 19537. | .011550 |
| 1980 | 217.280 | 18706. | .011616 |
| 1981 | 208.503 | 18070. | .011539 |
| 1982 | 200.750 | 17479. | .011485 |
| 1983 | 192.407 | 16958. | .011346 |
| 1984 | 184.610 | 16558. | .011149 |
| 1985 | 176.962 | 16193. | .010928 |
| 1986 | 169.539 | 15902. | .010662 |

RANGE .001132 SIZE OF INTERVALS 0.0002 NO OF INTERVALS 6

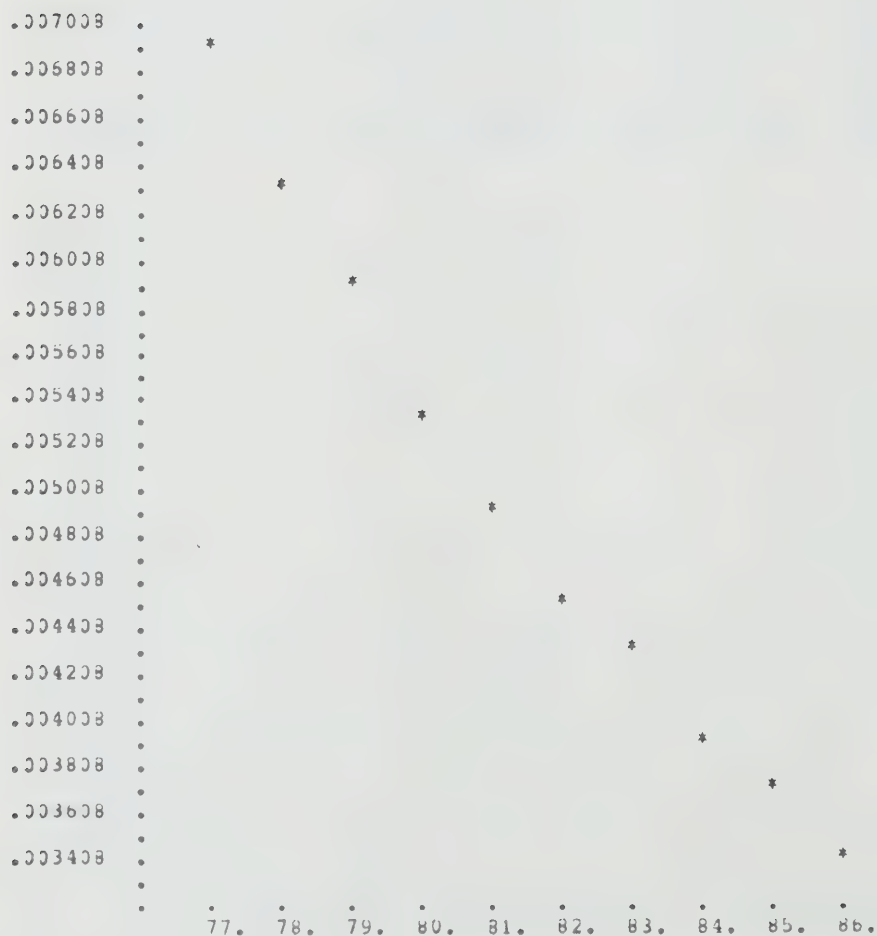


BJARD 12

YEAR NO. OF NC STAFF-A PROJECTED ENROLMENT-B A/B

| | | | |
|------|--------|-------|---------|
| 1977 | 39.000 | 5694. | .006849 |
| 1978 | 36.162 | 5775. | .006262 |
| 1979 | 34.357 | 5844. | .005879 |
| 1980 | 32.321 | 5984. | .005401 |
| 1981 | 30.302 | 6123. | .004949 |
| 1982 | 28.361 | 6282. | .004515 |
| 1983 | 26.970 | 6406. | .004210 |
| 1984 | 25.529 | 6491. | .003933 |
| 1985 | 24.162 | 6610. | .003655 |
| 1986 | 22.794 | 6688. | .003408 |

RANGE .003441 SIZE OF INTERVALS 0.0002 NO. OF INTERVALS 18



APPENDIX L

Plant Operations Budget Formula
Metro Toronto, 1978

5

PLANT OPERATIONS BUDGET FORMULA - 1978

FORMULA CALCULATION

Board _____

ELEMENTARY

Prepared by _____

Date Prepared _____

| | | | |
|------|---|------------------------|-----------|
| A. | Total Gross Square Footage - All Buildings Excluding Portables | _____ sq.ft. X \$.6505 | \$ _____ |
| B. | 1978 Enrolment Factor | _____ X \$ 50.24 | _____ |
| C. | Approved Staff Allocation Teacher Allotment September 1977 | _____ X \$361.73 | _____ |
| D. | # of manually operated Elevators requiring a full-time operator | _____ X \$16,077.00 | _____ |
| E. | Total Gross Acreage all sites | _____ X \$368.43 | _____ |
| F. | # of Swimming Pools | _____ X \$13,397.00 | _____ |
| G. | # of Portables | _____ X \$ 937.82 | _____ |
| H. | # of schools estimated Jan. 1, 1978 | _____ X .60=..... | |
| | # of schools estimated Sept.1, 1978 | _____ X .40=_____ | |
| | | TOTAL | X\$669.87 |
| I. | Rental of Facilities (Actual Requirement) | | _____ |
| | | SUB-TOTAL | _____ |
| J.1. | 1977 Actual Cost of Utilities to October 31, 1977. | _____ | _____ |
| J. | Estimated Cost of Utilities For November & December, 1977. | _____ | _____ |

TOTAL 1978 PLANT OPERATIONS BUDGET FORMULA

5

PLANT OPERATIONS BUDGET FORMULA - 1978

FORMULA CALCULATION

Board _____

SECONDARY

Prepared by _____

Date Prepared _____

| | | | |
|--|-------|-----------------|-----------|
| A. Total Gross Square Footage - All Buildings Excluding Portables | _____ | sq.ft.X \$.8147 | |
| B. 1978 Enrolment Factor | _____ | X \$56.27 | |
| C. Equivalent Full-Day Night School ADE | _____ | X \$18.76 | |
| D. Approved Staff Allocation Teacher Allotment September 1977 | _____ | X \$381.82 | |
| E. # of Manually Operated Elevators Requiring a Full-time Operator | _____ | X \$16,077.00 | |
| F. Total Gross Acreage all sites | _____ | X \$ 368.43 | |
| G. # of Swimming Pools | _____ | X \$13,397.00 | |
| H. # of Portables | _____ | X \$ 937.82 | |
| I. # of schools estimated Jan.1,1978 | _____ | X \$.60= | |
| # of schools estimated Sept.1,1978 | _____ | X \$.40= _____ | |
| TOTAL | | _____ | X\$669.87 |
| J. # of Unguarded Steam Plants | _____ | X \$13,397.00 | |
| K. Rental of Facilities(Actual Requirement) | | | |
| | | | SUB-TOTAL |
| L.1.1977 Actual Cost of Utilities to Oct. 31.1977 | _____ | | |
| 2.Estimated Cost of Utilities for November and December, 1977 | _____ | | |
| TOTAL 1978 PLANT OPERATIONS BUDGET FORMULA | | | |

APPENDIX M

Plant Maintenance Budget Formula
Metro Toronto, 1978

PLANT MAINTENANCE

FORMULA BUDGET - 1978

FORMULA CALCULATION

Board _____

Prepared By _____

Date Prepared _____

ELEMENTARY

ORDINARY

- a. Gross Area of all buildings open September 1977 (\$0.4281 per sq.ft.) _____ sq.ft. X \$0.4281 \$
- a. (i) Gross Area of all buildings closed and retained Sept.1977 (\$0.15 per sq.ft.) _____ sq.ft. X \$0.1500
NEW →
- b. (i) Gross Area of all buildings 20 years and older open Sept.1977 (\$0.2213 per sq.ft. additional) _____ sq.ft. X \$0.2213
- (ii) Gross Area for all buildings 35 years and older open Sept.1977 (\$0.2213 per sq.ft. additional) _____ sq.ft. X \$0.2213
- (iii) Increased costs of maintenance in obsolete schools due to capital restraints. Gross area of all buildings 35 yrs. and older open Sept.1977 (\$0.1107 per sq.ft. additional) _____ sq.ft. X \$0.1107
- c. Inner City Factor - Gross Area of all buildings times "Calculated Inner City Enrolment as a Percentage of Total Board Enrolment" _____ sq.ft. X \$0.0740
- d. Gross Area of sites as at Sept.1977 (\$738.17 per acre) _____ acres. X \$738.17
- e. Projected 1978 Enrolment factor (\$5.16 per student) _____ sq.ft. X \$5.16
- f. (i) Portables-maintenance-number on site Sept.1977 (\$590.53 per portable) _____ sq.ft. X \$590.53
- g. Air-conditioning as at Sept.1977 (\$32.47 per ton) _____ tons X \$32.47
- h. Number of Technical, Vocational & Commercial Shops open Sept.1977 (\$369.09 per shop) _____ X \$369.09
- i. Swimming Pools open Sept.1977 (\$5905.61 per pool) _____ X \$5905.61

ELEMENTARY

j. Adventure Playgrounds with initial
construction cost over \$10,000
(\$1290.85 each)

X \$1290.85

(X)

\$

EXTRAORDINARY

k. Malicious damage at 11.19% of
(X) above

X \$0.1119

\$

l. Furniture & Equipment at \$0.6107
per sq.ft. of all buildings open
as at Sept.1977 (Item a above)

X \$0.0107

m. Portables - Relocations-number
on site Sept.1977 (559.30 per
portable)

X \$559.30

SUB-TOTAL EXTRAORDINARY

(Y)

\$

TOTAL 1978 PLANT MAINTENANCE FORMULA BUDGET

PLANT MAINTENANCE

FORMULA BUDGET - 1978

FORMULA CALCULATION

Board _____

SECONDARY

Prepared By _____

Date Prepared _____

ORDINARY

| | | | |
|---------|---|-------------------------|----|
| a. | Gross area of <u>all</u> buildings open September 1977 (\$0.4565 per sq.ft.) | _____ sq.ft. X \$0.4565 | \$ |
| a.(i) | Gross area of all buildings closed and retained Sept. 1977 (\$0.15 per sq.ft.) | _____ sq.ft. X \$0.1500 | |
| b.(i) | Gross area of all buildings over 20 years and older open Sept. 1977 (\$0.2361 per sq.ft. additional) | _____ sq.ft. X \$0.2361 | |
| (ii) | Gross area for all buildings 35 years and older open Sept. 1977 (\$0.2361 per sq.ft. additional) | _____ sq.ft. X \$0.2361 | |
| (iii) | Increased costs of maintenance in obsolete schools due to capital restraints. Gross area of all buildings 35 years and older open Sept. 1977 (\$0.1180 per sq.ft. additional) | _____ sq.ft. X \$0.1180 | |
| c.(ii) | Concentrated Use Factor - Gross area of all buildings times "Calculated Inner City Enrolment as a Percentage of Total Board Enrolment" | _____ sq.ft. X \$0.0786 | |
| d. | Gross area of sites as at Sept. 1977 (\$787.18 per acre) | _____ acres X \$787.18 | |
| e. | Projected 1978 Enrolment factor (\$5.53 per student) | _____ X \$ 5.53 | |
| f.(i) | Portables-maintenance-number on site Sept. 1977 (\$634.07) | _____ X \$634.07 | |
| g. | Air-conditioning Sept. 1977 (\$34.64 per ton) | _____ tons X \$ 34.64 | |
| h.. | Number of Technical, Vocational & Commercial Shops open Sept. 1977 (\$393.58 per shop) | _____ X \$393.58 | |
| i. | Swimming Pools open Sept.1977 (\$6297.40 per pool) | _____ X \$6297.40 | |

SECONDARY

| | | | | | |
|----|-----------------------------------|-------|---|-----------|----------|
| j. | Permanent Stadia (\$1304.61 each) | _____ | X | \$1304.61 | _____ |
| | SUB TOTAL ORDINARY | | | (X) | \$ _____ |

EXTRAORDINARY

| | | | | | |
|----|---|-------|---|----------|-----------|
| k. | Malicious damage at 13.66% of
(X) above | _____ | X | \$0.1366 | \$' _____ |
| l. | Furniture & Equipment at \$0.0127
per sq.ft. of <u>all</u> buildings open
as at Sept. 1977 (Item a above) | _____ | X | \$0.0127 | _____ |
| m. | Portables - Relocation-number on
site Sept. 1977 (\$683.43 per
portable) | _____ | X | \$683.43 | _____ |
| | SUB TOTAL EXTRAORDINARY | | | (Y) | \$ _____ |

TOTAL 1978 PLANT MAINTENANCE FORMULA BUDGET

\$ _____

APPENDIX N

Computer Programs and Data Files

Available in microfiche version of report available from ONTERIS,
Ministry of Education, Ontario

